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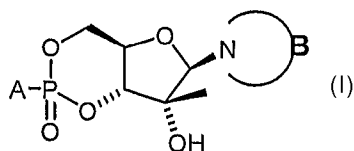
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(54) Title: 3', 5' - CYCLIC NUCLEOSIDE ANALOGUES FOR TREATMENT OF HCV



(57) Abstract: This invention provides compounds according to formula (I) where B is a 6-membered monocyclic nitrogen-containing heteroaryl group or a 5 + 6 fused bicyclic nitrogen-containing heteroaryl group, and A is selected from Groups (1), (2), (3), and (4) where Groups (1), (2), (3), and (4), are defined herein. These compounds are useful in the treatment of Hepatitis C infection.



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**3', 5'- CYCLIC NUCLEOSIDE ANALOGUES FOR TREATMENT OF HCV****Cross Reference to Related Applications**

- 5           This application claims priority to U.S. Provisional Application Ser. No. 60/681,332, filed May 16, 2005; U.S. Provisional Application Ser. No. 60/748,130, filed December 6, 2005; and U.S. Provisional Application Ser. No. 60/785,238, filed March 22, 2006. All are incorporated by reference herein in their entirety.

**10   Field of the Invention**

          This invention relates to cyclic nucleoside analogues and to the use of such compounds in the treatment of Hepatitis C infection.

**Background of the Invention**

- 15           Hepatitis C virus (HCV) infection presents a worldwide health problem that affects approximately 170 million people, with about 30,000 new cases in the United States each year. Because HCV is not easily cleared by immunological defenses, as many as 85% of the people who are infected with HCV become chronically infected (Hoofnagle, J. H., 1997, *Hepatology* 26: 15S-20S). A substantial portion of these infected
- 20   individuals will slowly progress into severe liver diseases, including cirrhosis, liver failure, and hepatocellular carcinoma (Lauer, G. M.; Walker B. D. 2001, *N. Engl. J. Med.* 345: 41-52). Liver failure due to HCV is the leading cause of liver transplantation in the United States and Europe (Seeff, L. B. 2002, *Hepatology* 36(Suppl 1): 35S-46S; Adam R. *et al.* 2000, *Lancet* 356:621-627). The Centers for Disease Control and Prevention
- 25   estimate that chronic hepatitis C virus infection is responsible for 10,000 to 12,000 deaths in the United States annually. Without effective intervention, this number is expected to triple in the next 10 to 20 years.

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HCV is a single-stranded, positive-sense RNA virus belonging to the hepacivirus genus of the Flaviviridae family (Choo, Q. L. *et al.*, 1989, *Science* 244:359-364). The 9.6 kb genome of HCV encodes a single polyprotein which is cleaved co- and post-translationally by cellular and viral proteases into at least four structural (C, E1, E2, and p7) and six non-structural (NS2, NS3, NS4A, NS4B, NS5A and NS5B) proteins. One of these nonstructural proteins is NS5B, the RNA-dependent RNA polymerase, plays a central role in viral RNA replication and is therefore an attractive target for the development of antiviral intervention.

Similar to the replication of most positive-strand RNA viruses, it is believed that HCV forms membrane-associated replication complexes in catalyzing RNA synthesis during viral RNA replication. These replication complexes contain viral non-structural proteins (NS3, NS4A, NS4B, NS5A and NS5B), viral RNA and unidentified host cellular proteins. Recently, several groups have demonstrated the in vitro replication activity of HCV replicase complexes in a crude membrane fraction isolated from the HCV subgenomic replicon cells (Ali, N. *et al.* 2002, *J. Virol.* 76:12001-12007; Hardy, R. W. *et al.* 2003, *J. Virol.* 77:2029-2037; Lai, V. C. H. *et al.* 2003, *J. Virol.* 77:2295-2300). The success to replicate HCV RNA using authentic replicase complexes in vitro will facilitate molecular dissection of the replication process and provide a system to evaluate potential antiviral drugs against the entire replicase complex of HCV.

The development of effective vaccines for prophylaxis and treatment of HCV infection have been unsuccessful due to various virus-specific difficulties, especially immune evasion. Nonetheless, treatment of chronic hepatitis C has achieved significant advances in recent years. The current standard therapy for chronic hepatitis C consists of a combination of pegylated interferon-alpha (IFN $\alpha$ ) and ribavirin. This therapy confers an overall sustained viral response (SVR) of around 54-56% among treated patients but is less effective against infection by HCV genotype 1. The limited effectiveness and adverse side effects of the current therapy underscores the urgent need for development of more effective and HCV-specific antiviral therapeutics.

Thus, in view of the prevalence of HCV infection and the limited effectiveness and adverse side effects of the current therapies, there is a need for compositions and

methods for effective treatment of viral infections, especially for effective treatment of HCV infections.

5 The use of nucleoside and nucleotide analogues for the treatment of HCV is accepted clinical practice. In particular, the combination of the pyrimidine analogue ribavirin (1- $\beta$ -D-ribofuranosyl-1H-1,2,4-triazole-3-carboxamide) and  $\alpha$ -interferon is the current therapy of choice. The search for more potent analogues with fewer side effects continues. These efforts have involved not only modification of the native heterocyclic base as in ribavirin, but also modification of the ribofuranose moiety.

10 Sommoadossi and LaColla described a group of purine and pyrimidine nucleosides and nucleotides derived from 2-methyl ribofuranose in WO 01/90121 and WO 01/92282 (now U.S. Patent No. 6,812,219 to Idenix). Among the compounds disclosed are those with 6-alkylamino, 6-alkylamino-8-amino, and 6-alkylamino-2-amino substitution patterns.

15 Another group of purine nucleotides and nucleosides for the treatment of HCV can be found in WO 02/18404 by Devos *et al.* (to Hoffmann-LaRoche). The nucleotides disclosed by Davos include purines with 2-amino-6-substituted amino bases and having 2',2'-difluoro- or 2'-deoxy ribofuranose, but not 2' methyl ribofuranose. Stuyver and Watanabe (WO 02/32920 to Pharmasset) make a generic disclosure that includes but does not specifically describe 2'-methyl ribofuranose-containing nucleosides. Several 2'-methyl ribonucleotides with 7-deazapurine and 7-substituted-purine moieties are disclosed by Bhat *et al.* in U.S. Patent No. 6,777,395. Bhat *et al.* also disclose the use of two neutral phosphate ester derivatives of  
20 nucleotides -- acetyl-SATE (S-acyl-2-thioethyl) and pivaloyl-SATE -- as prodrugs of the ribonucleotide analogues. SATE prodrugs are disclosed generically in U.S. Patent No. 5,770,725.

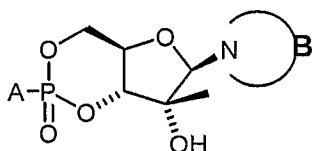
An *et al.* disclose a group of 2'-methyl ribofuranosyl purine nucleoside derivatives in WO 03/062256, which is commonly owned with the present application. The purine derivatives described by An *et al.* contain substitutions --  
30 including hydrazinyl, methylhydrazinyl and methylsulfonylhydrazinyl -- at the 6-position.

Modified nucleotides and nucleosides have been widely used to treat not only HCV and other viral infections. In each case, the active drug is the nucleotide triphosphate. The compound administered to the patient is a prodrug; the active drug results from intracellular phosphorylation to yield the triphosphate. Because it is unstable in plasma, and because it does not penetrate the cell membrane (due to its being charged at physiological pH), the nucleotide itself is never administered to the patient. The effectiveness of modified nucleotides as anti-virals depends both on the selectivity and affinity of the active drug for the viral polymerase and on the efficiency of the *in vivo* phosphorylation of the prodrug form that is administered.

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### Brief Description of the Invention

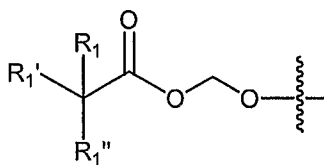
This invention provides a compound according to formula 1



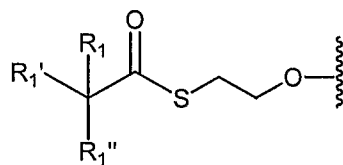
I

15 wherein B is a 6-membered monocyclic nitrogen-containing heteroaryl group or a 5 + 6 fused bicyclic nitrogen-containing heteroaryl group, and A is selected from Groups (1), (2), (3), and (4)

(1)

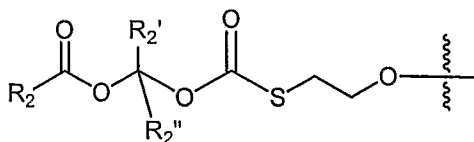


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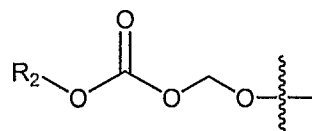


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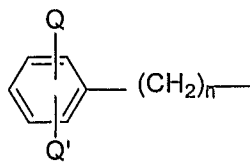


(4)



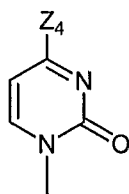
where, in Groups (1) and (2), where R<sub>1</sub> is H, C<sub>1</sub>-C<sub>8</sub> alkyl, C<sub>3</sub>-C<sub>6</sub> cycloalkyl-(CH<sub>2</sub>)<sub>m</sub>-,

C<sub>3</sub>-C<sub>6</sub> cycloalkyl-O-(CH<sub>2</sub>)<sub>m</sub>-, C<sub>3</sub>-C<sub>6</sub> cycloalkyl-(CH<sub>2</sub>)<sub>n</sub>-O-(CH<sub>2</sub>)<sub>m</sub>-, or C<sub>1</sub>-C<sub>8</sub> alkyl-O-(CH<sub>2</sub>)<sub>m</sub>-, where the alkyl and cycloalkyl groups are optionally substituted with one or two groups selected independently from halogen, CF<sub>3</sub>, and C<sub>1</sub>-C<sub>3</sub> alkyl, where m = zero to 4, and where n = zero to 2; and R<sub>1</sub>' and R<sub>1</sub>" are, independently, H, C<sub>3</sub>-C<sub>5</sub> cycloalkyl, or C<sub>1</sub>-C<sub>4</sub> alkyl; and, in Groups (3) and (4), R<sub>2</sub> is C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>3</sub>-C<sub>5</sub>

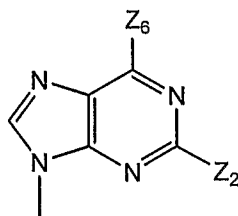


cycloalkyl-(CH<sub>2</sub>)<sub>n</sub>, or the following group where n = 0 to 2, and where substituents Q and Q' are selected independently from H, F, Cl, Br, and C<sub>1</sub>-C<sub>3</sub> alkyl, which C<sub>1</sub>-C<sub>3</sub> alkyl group or groups are optionally substituted with one or more halogen atoms; R<sub>2</sub>' is H, C<sub>3</sub>-C<sub>5</sub> cycloalkyl, or C<sub>1</sub>-C<sub>4</sub> alkyl; and R<sub>2</sub>" is H or C<sub>1</sub>-C<sub>4</sub> alkyl.

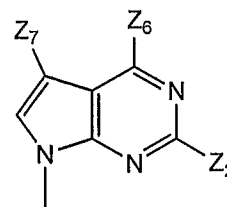
10 In one generic embodiment, this invention provides a compound of formula I, in which B is selected from bases B-1, B-2, and B-3,



B-1



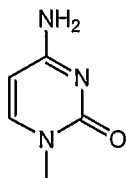
B-2



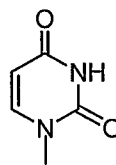
B-3

where Z<sub>2</sub> is H, NH<sub>2</sub>, NHMe, or NMe<sub>2</sub>; Z<sub>4</sub> is -NH<sub>2</sub> or -OH; Z<sub>6</sub> is H, OH, OMe, OEt, SCH<sub>3</sub>, thienyl, furyl, or NR<sub>3</sub>R<sub>4</sub>, where R<sub>3</sub> is H, C<sub>1</sub>-C<sub>3</sub> alkyl, or cyclopropyl, and R<sub>4</sub> is H or NHR<sub>5</sub>, R<sub>5</sub> is H, C<sub>1</sub>-C<sub>4</sub> alkyl, or SO<sub>2</sub>R<sub>6</sub>, and R<sub>6</sub> is C<sub>1</sub>-C<sub>4</sub> alkyl; and Z<sub>7</sub> is H, halogen, or CN. All tautomeric forms are included in these definitions.

In one subgeneric embodiment, this invention provides a compound of formula I, in which B is B-1 and is selected from B-1-a and B-1-b:



B-1-a



B-1-b

20

In another subgeneric embodiment, this invention provides a compound of formula I, in which B is B-2.

In a more specific embodiment, this invention provides a compound of formula I, in which B is B-2, where  $Z_2$  is NHMe or NMe<sub>2</sub>.

5 In another more specific embodiment, this invention provides a compound of formula I, in which B is B-2, where  $Z_2$  is H or NH<sub>2</sub>.

In another more specific embodiment, this invention provides a compound of formula I, in which B is B-2, and  $Z_6$  is H, OH, OCH<sub>3</sub>, OEt, or SCH<sub>3</sub>.

10 In another more specific embodiment, this invention provides a compound of formula I, in which B is B-2, and  $Z_6$  is thienyl or furyl.

In another more specific embodiment, this invention provides a compound of formula I, in which B is B-2, and  $Z_6$  is NR<sub>3</sub>R<sub>4</sub>, where R<sub>3</sub> is H, C<sub>1</sub>-C<sub>3</sub> alkyl, or cyclopropyl; R<sub>4</sub> is H or NHR<sub>5</sub>; R<sub>5</sub> is H, C<sub>1</sub>-C<sub>4</sub> alkyl, or SO<sub>2</sub>R<sub>6</sub>; and R<sub>6</sub> is C<sub>1</sub>-C<sub>4</sub> alkyl.

15 In another more specific embodiment, this invention provides a compound of formula I, in which B is B-2 and  $Z_6$  is H, NH<sub>2</sub>, or NHCH<sub>3</sub>.

In another still more specific embodiment, this invention provides a compound of formula I, in which B is B-2 and  $Z_6$  is NR<sub>3</sub>R<sub>4</sub>, where R<sub>3</sub> is H, methyl, ethyl, n-propyl, isopropyl, or cyclopropyl; R<sub>4</sub> is NHR<sub>5</sub>; R<sub>5</sub> is H, C<sub>1</sub>-C<sub>4</sub> alkyl, or SO<sub>2</sub>R<sub>6</sub>; and R<sub>6</sub> is methyl or ethyl.

20 In another subgeneric embodiment, this invention provides a compound of formula I, in which B is B-3.

In a more specific embodiment, this invention provides a compound of formula I, in which B is B-3, where  $Z_2$  is NHMe, or NMe<sub>2</sub>.

25 In another more specific embodiment, this invention provides a compound of formula I, in which B is B-3, where  $Z_2$  is H or NH<sub>2</sub>.

In another more specific embodiment, this invention provides a compound of formula I, in which B is B-3, where  $Z_2$  is H or  $\text{NH}_2$  and  $Z_6$  is OH,  $\text{OCH}_3$ , OEt, or  $\text{SCH}_3$ .

5 In another more specific embodiment, this invention provides a compound of formula I, in which B is B-3, where  $Z_2$  is H or  $\text{NH}_2$  and  $Z_6$  is thienyl or furyl.

In another more specific embodiment, this invention provides a compound of formula I, in which B is B-3, where  $Z_2$  is H or  $-\text{NH}_2$  and  $Z_6$  is  $\text{NR}_3\text{R}_4$ , where  $\text{R}_3$  is H,  $\text{C}_1\text{-C}_3$  alkyl, or cyclopropyl;  $\text{R}_4$  is H or  $\text{NHR}_5$ ;  $\text{R}_5$  is H,  $\text{C}_1\text{-C}_4$  alkyl, or  $\text{SO}_2\text{R}_6$ ; and  $\text{R}_6$  is  $\text{C}_1\text{-C}_4$  alkyl.

10 In another more specific embodiment, this invention provides a compound of formula I, in which B is B-3, where  $Z_2$  is H or  $\text{NH}_2$  and  $Z_6$  is H,  $\text{NH}_2$  or  $\text{NHCH}_3$ .

In a still more specific embodiment, this invention provides a compound of formula I, in which B is B-3, where  $Z_2$  is H or  $\text{NH}_2$ ;  $Z_6$  is H,  $\text{NH}_2$  or  $\text{NHCH}_3$ ; and  $Z_7$  is H, F, or CN.

15 In another more specific embodiment, this invention provides a compound of formula I, in which B is B-3, where  $Z_2$  is H or  $\text{NH}_2$  and  $Z_6$  is  $\text{NR}_3\text{R}_4$ , where  $\text{R}_3$  is H, methyl, ethyl, or cyclopropyl;  $\text{R}_4$  is H or  $\text{NHR}_5$ ;  $\text{R}_5$  is H,  $\text{C}_1\text{-C}_4$  alkyl, or  $\text{SO}_2\text{R}_6$ ; and  $\text{R}_6$  is methyl or ethyl.

20 In a still more specific embodiment, this invention provides a compound of formula I, in which B is B-3, where  $Z_2$  is H or  $-\text{NH}_2$  and  $Z_6$  is  $\text{NR}_3\text{R}_4$ , where  $\text{R}_3$  is H, methyl, ethyl, or cyclopropyl;  $\text{R}_4$  is H or  $\text{NHR}_5$ ;  $\text{R}_5$  is H,  $\text{C}_1\text{-C}_4$  alkyl, or  $\text{SO}_2\text{R}_6$ ;  $\text{R}_6$  is methyl or ethyl; and  $Z_7$  is H, F, or CN.

In another subgeneric embodiment, the invention provides a compound of formula I, where B is selected from B-1, B-2, and B-3, and where A is Group (1).

25 In another subgeneric embodiment, the invention provides a compound of formula I, where B is selected from B-1, B-2, and B-3, and where A is Group (2).

In another subgeneric embodiment, the invention provides a compound of formula I, where B is selected from B-1, B-2, and B-3, and where A is Group (3).

In another subgeneric embodiment, the invention provides a compound of formula I, where B is selected from B-1, B-2, and B-3, and where A is Group (4).

In a more specific subgeneric embodiment, the invention provides a compound of formula I, where B is selected from B-1, B-2, and B-3, and where A is Group (1), where  $R_1$  is C<sub>3</sub>-C<sub>6</sub> cycloalkyl-O-(CH<sub>2</sub>)<sub>m</sub>-, C<sub>3</sub>-C<sub>6</sub> cycloalkyl-(CH<sub>2</sub>)<sub>n</sub>-O-(CH<sub>2</sub>)<sub>m</sub>-, or C<sub>1</sub>-C<sub>8</sub> alkyl-O-(CH<sub>2</sub>)<sub>m</sub>-, where m = 0 to 4, where n = 1 or 2, and where R<sub>1</sub>' and R<sub>1</sub>" are, independently, H, C<sub>3</sub>-C<sub>5</sub> cycloalkyl, or C<sub>1</sub>-C<sub>4</sub> alkyl.

In a more specific subgeneric embodiment, the invention provides a compound of formula I, where B is selected from B-1, B-2, and B-3, and where A is Group (1), where  $R_1$  is H, C<sub>1</sub>-C<sub>8</sub> alkyl, or C<sub>3</sub>-C<sub>6</sub> cycloalkyl-(CH<sub>2</sub>)<sub>m</sub>-, where m = 0 to 4, and where R<sub>1</sub>' and R<sub>1</sub>" are, independently, H, C<sub>3</sub>-C<sub>5</sub> cycloalkyl, or C<sub>1</sub>-C<sub>4</sub> alkyl.

In a still more specific subgeneric embodiment, the invention provides a compound of formula I, where B is selected from B-1, B-2, and B-3, and where A is Group (1), where  $R_1$  is C<sub>3</sub>-C<sub>6</sub> cycloalkyl-O-(CH<sub>2</sub>)<sub>m</sub>-, C<sub>3</sub>-C<sub>6</sub> cycloalkyl-(CH<sub>2</sub>)<sub>n</sub>-O-(CH<sub>2</sub>)<sub>m</sub>-, or C<sub>1</sub>-C<sub>8</sub> alkyl-O-(CH<sub>2</sub>)<sub>m</sub>-, where m = 0 to 3, where n = 1 or 2, and where R<sub>1</sub>' and R<sub>1</sub>" are identical and are C<sub>1</sub>-C<sub>3</sub> alkyl.

In another more specific subgeneric embodiment, the invention provides a compound of formula I, where B is selected from B-1, B-2, and B-3, and where A is Group (1), where  $R_1$  is H, C<sub>1</sub>-C<sub>8</sub> alkyl, or C<sub>3</sub>-C<sub>6</sub> cycloalkyl-(CH<sub>2</sub>)<sub>m</sub>-, where m = 0 to 2, and where R<sub>1</sub>' and R<sub>1</sub>" are identical and are C<sub>1</sub>-C<sub>3</sub> alkyl.

In a still more specific subgeneric embodiment, the invention provides a compound of formula I, where B is selected from B-1, B-2, and B-3, and where A is Group (1), where  $R_1$  is C<sub>3</sub>-C<sub>6</sub> cycloalkyl-O-(CH<sub>2</sub>)<sub>m</sub>- or C<sub>3</sub>-C<sub>6</sub> cycloalkyl-(CH<sub>2</sub>)<sub>n</sub>-O-(CH<sub>2</sub>)<sub>m</sub>-, or C<sub>3</sub>-C<sub>6</sub> cycloalkyl-(CH<sub>2</sub>)<sub>m</sub>-, where the cycloalkyl group is substituted with methyl or halo, where m = 0 to 3, where n = 1 or 2, and where R<sub>1</sub>' and R<sub>1</sub>" are identical and are C<sub>1</sub>-C<sub>3</sub> alkyl.

In another more specific subgeneric embodiment, the invention provides a compound of formula I, where B is selected from B-1, B-2, and B-3, and where A is Group (1), where  $R_1$  is H, C<sub>1</sub>-C<sub>8</sub> alkyl, where m = 0 to 2, and where R<sub>1</sub>' and R<sub>1</sub>" are identical and are C<sub>1</sub>-C<sub>3</sub> alkyl.

In another, even more specific subgeneric embodiment, the invention provides a compound of formula I, where B is selected from B-1, B-2, and B-3, and where A is Group (1), where  $R_1$  is  $C_1$ - $C_6$  alkyl or  $C_1$ - $C_6$  alkyl- $O-(CH_2)_m$ -, where the  $C_1$ - $C_6$  alkyl group is substituted with one or two halogens, where  $m = 0$  to  $2$ , and where  $R_1'$  and  $R_1''$  are both methyl.

In another subgeneric embodiment, the invention provides a compound of formula I, where B is selected from B-1, B-2, and B-3, and where A is Group (2), where  $R_1$  is  $C_3$ - $C_6$  cycloalkyl- $O-(CH_2)_m$ -,  $C_3$ - $C_6$  cycloalkyl- $(CH_2)_n-O-(CH_2)_m$ -, or  $C_1$ - $C_6$  alkyl- $O-(CH_2)_m$ -, where  $m = 0$  to  $4$ , where  $n = 1$  or  $2$ , and where  $R_1'$  and  $R_1''$  are, independently, H,  $C_3$ - $C_5$  cycloalkyl, or  $C_1$ - $C_4$  alkyl.

In another subgeneric embodiment, the invention provides a compound of formula I, where B is selected from B-1, B-2, and B-3, and where A is Group (2), where  $R_1$  is H,  $C_1$ - $C_6$  alkyl, or  $C_3$ - $C_6$  cycloalkyl- $(CH_2)_m$ -, where  $m = 0$  to  $4$ , and where  $R_1'$  and  $R_1''$  are, independently, H,  $C_3$ - $C_5$  cycloalkyl, or  $C_1$ - $C_4$  alkyl.

In another subgeneric embodiment, the invention provides a compound of formula I, where B is selected from B-1, B-2, and B-3, and where A is Group (2), where  $R_1$  is  $C_3$ - $C_6$  cycloalkyl- $O-(CH_2)_m$ -,  $C_3$ - $C_6$  cycloalkyl- $(CH_2)_n-O-(CH_2)_m$ -, or  $C_1$ - $C_6$  alkyl- $O-(CH_2)_m$ -, where  $m = 0$  to  $2$ , where  $n = 0$  or  $2$ , and where  $R_1'$  and  $R_1''$  are identical and are  $C_1$ - $C_3$  alkyl.

In another subgeneric embodiment, the invention provides a compound of formula I, where B is selected from B-1, B-2, and B-3, and where A is Group (2), where  $R_1$  is H,  $C_1$ - $C_6$  alkyl, or  $C_3$ - $C_6$  cycloalkyl- $(CH_2)_m$ -, where  $m = 0$  to  $2$ , and where  $R_1'$  and  $R_1''$  are identical and are  $C_1$ - $C_3$  alkyl.

In an even more specific subgeneric embodiment, the invention provides a compound of formula I, where B is selected from B-1, B-2, and B-3, and where A is Group (2), where  $R_1$  is  $C_1$ - $C_6$  alkyl, or  $C_1$ - $C_6$  alkyl- $O-(CH_2)_m$ -, where  $m = 0$  to  $2$ , and where  $R_1'$  and  $R_1''$  are both methyl.

In another more specific embodiment, this invention provides or contemplates a compound of formula I, where A is Group (1) or Group (2), where  $R_1$  is  $C_5$ - $C_8$  alkyl or  $C_5$ - $C_8$  alkyl- $O-(CH_2)_m$ -, where  $m = 0$  to  $2$ , and where  $R_1'$  and  $R_1''$  are both methyl.

In another more specific embodiment, this invention provides or contemplates a compound of formula I, where A is Group (1) or Group (2), where R<sub>1</sub>' and R<sub>1</sub>" are both methyl and where R<sub>1</sub> is selected from CH<sub>2</sub>F, CH<sub>2</sub>CH<sub>2</sub>F, CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>F, CH<sub>2</sub>F-O-(CH<sub>2</sub>)<sub>m</sub>, FCH<sub>2</sub>CH<sub>2</sub>-O-(CH<sub>2</sub>)<sub>m</sub>, or FCH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>-O-(CH<sub>2</sub>)<sub>m</sub>, where m = 0 to 2.

5 In another more specific embodiment, this invention provides or contemplates a compound of formula I, where A is Group (1) or Group (2), where R<sub>1</sub>' and R<sub>1</sub>" are both methyl and where R<sub>1</sub> is selected from CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>F, CH<sub>2</sub>CH<sub>2</sub>CH(CH<sub>2</sub>F)<sub>2</sub>, CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CF<sub>3</sub>, CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CHCF<sub>3</sub>, CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>F, CH<sub>3</sub>CH<sub>2</sub>F-O-(CH<sub>2</sub>)<sub>m</sub>, CF<sub>3</sub>CH<sub>2</sub>-O-(CH<sub>2</sub>)<sub>m</sub>, or CF<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>-O-(CH<sub>2</sub>)<sub>m</sub>, where m = 0 to 2.

10 In another more specific embodiment, this invention provides or contemplates a compound of formula I, where A is Group (1) or Group (2), where R<sub>1</sub>' and R<sub>1</sub>" are both methyl and where R<sub>1</sub> is selected from CH<sub>2</sub>Cl, CH<sub>2</sub>CH<sub>2</sub>Cl, CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>Cl, CH<sub>2</sub>Cl-O-(CH<sub>2</sub>)<sub>m</sub>, ClCH<sub>2</sub>CH<sub>2</sub>-O-(CH<sub>2</sub>)<sub>m</sub>, or ClCH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>-O-(CH<sub>2</sub>)<sub>m</sub>, where m = 0 to 2.

15 In another more specific embodiment, this invention provides or contemplates a compound of formula I, where A is Group (1) or Group (2), where R<sub>1</sub>' and R<sub>1</sub>" are both methyl and where R<sub>1</sub> is selected from CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>Cl, CH<sub>2</sub>CH<sub>2</sub>CH(CH<sub>2</sub>Cl)<sub>2</sub>, CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>Cl, CH<sub>2</sub>Cl-O-(CH<sub>2</sub>)<sub>m</sub>, ClCH<sub>2</sub>CH<sub>2</sub>-O-(CH<sub>2</sub>)<sub>m</sub>, or ClCH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>-O-(CH<sub>2</sub>)<sub>m</sub>, where m = 0 to 2.

20 In a more specific subgeneric embodiment, the invention provides a compound of formula I, where B is selected from B-1, B-2, and B-3, and where A is Group (3), where R<sub>2</sub>' is methyl, ethyl, or isopropyl and R<sub>2</sub>" is H or methyl.

In a more specific subgeneric embodiment, the invention provides a compound of formula I, where B is selected from B-1, B-2, and B-3, and where A is  
25 Group (3), where R<sub>2</sub>' is methyl or isopropyl, R<sub>2</sub>" is H or methyl, and R<sub>2</sub> is C<sub>1</sub>-C<sub>6</sub> alkyl.

In a more specific subgeneric embodiment, the invention provides a compound of formula I, where B is selected from B-1, B-2, and B-3, and where A is Group (3), where R<sub>2</sub>' is methyl, R<sub>2</sub>" is H or methyl, and R<sub>2</sub> is C<sub>3</sub>-C<sub>5</sub> cycloalkyl.

In a more specific subgeneric embodiment, the invention provides a compound of formula I, where B is selected from B-1, B-2, and B-3, and where A is Group (3), where R<sub>2</sub>' is methyl, R<sub>2</sub>" is H or methyl, and R<sub>2</sub> is phenyl, benzyl, or xylyl.

5 In a more specific subgeneric embodiment, the invention provides a compound of formula I, where B is selected from B-1, B-2, and B-3, and where A is Group (3), where R<sub>2</sub>' is methyl, R<sub>2</sub>" is H or methyl, and R<sub>2</sub> is fluorophenyl, chlorophenyl, or o-, m-, or p-tolyl.

10 In a more specific subgeneric embodiment, the invention provides a compound of formula I, where B is selected from B-1, B-2, and B-3, and where A is Group (3), where R<sub>2</sub>' is methyl, R<sub>2</sub>" is H or methyl, and R<sub>2</sub> is mono-halo benzyl or di-halo benzyl.

15 In a more specific subgeneric embodiment, the invention provides a compound of formula I, where B is selected from B-1, B-2, and B-3, and where A is Group (3), where R<sub>2</sub>' is methyl, R<sub>2</sub>" is H or methyl, and R<sub>2</sub> is mono-alkyl benzyl or di-alkyl benzyl.

In another more specific subgeneric embodiment, the invention provides a compound of formula I, where B is selected from B-1, B-2, and B-3, and where A is Group (3), where R<sub>2</sub>' is methyl, R<sub>2</sub>" is H or methyl, and R<sub>2</sub> is trifluoromethyl phenyl or trifluoromethyl benzyl.

20 In another more specific subgeneric embodiment, the invention provides a compound of formula I, where B is selected from B-1, B-2, and B-3, and where A is Group (4), where R<sub>2</sub> is C<sub>1</sub>-C<sub>6</sub> alkyl.

25 In another more specific subgeneric embodiment, the invention provides a compound of formula I, where B is selected from B-1, B-2, and B-3, and where A is Group (4), where R<sub>2</sub> is methyl, ethyl, or isopropyl.

In another more specific subgeneric embodiment, the invention provides a compound of formula I, where B is selected from B-1, B-2, and B-3, and where A is Group (4), where R<sub>2</sub> is C<sub>3</sub>-C<sub>5</sub> cycloalkyl.

In another more specific subgeneric embodiment, the invention provides a compound of formula I, where B is selected from B-1, B-2, and B-3, and where A is Group (4), where R<sub>2</sub> is phenyl, benzyl, or xylyl.

5 In another more specific subgeneric embodiment, the invention provides a compound of formula I, where B is selected from B-1, B-2, and B-3, and where A is Group (4), where R<sub>2</sub> is trifluoromethyl phenyl or trifluoromethyl benzyl.

10 In another more specific subgeneric embodiment, the invention provides a compound of formula I, where B is selected from B-1, B-2, and B-3, and where A is Group (4), where R<sub>2</sub> is mono-alkyl phenyl, di-alkyl phenyl, mono-alkyl benzyl or di-alkyl benzyl.

In another more specific subgeneric embodiment, the invention provides a compound of formula I, where B is selected from B-1, B-2, and B-3, and where A is Group (4), where R<sub>2</sub> is mono-halo phenyl, di-halo phenyl, mono-halo benzyl, or di-halo benzyl.

15 In another subgeneric embodiment, the invention provides a compound of formula I, where B is B-2 or B-3, where Z<sub>2</sub> is H or NH<sub>2</sub>, and Z<sub>6</sub> is N(CH<sub>3</sub>)NHSO<sub>2</sub>(CH<sub>3</sub>) or NHNHSO<sub>2</sub>(CH<sub>3</sub>).

20 In another subgeneric embodiment, the invention provides a compound of formula I, where B is B-2 or B-3, where Z<sub>2</sub> is H or NH<sub>2</sub>; Z<sub>6</sub> is N(CH<sub>3</sub>)NHSO<sub>2</sub>(CH<sub>3</sub>) or NH-NHSO<sub>2</sub>(CH<sub>3</sub>); and A is Group (1) or Group (2), with R<sub>1</sub>' = R<sub>1</sub>" = methyl.

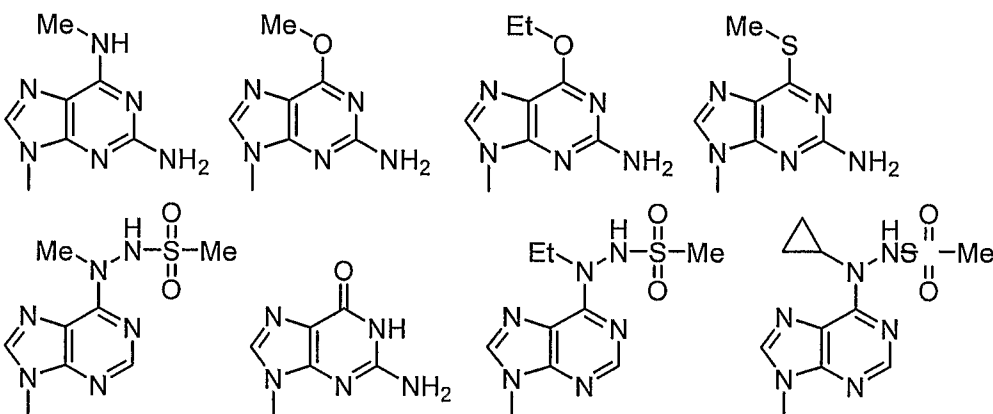
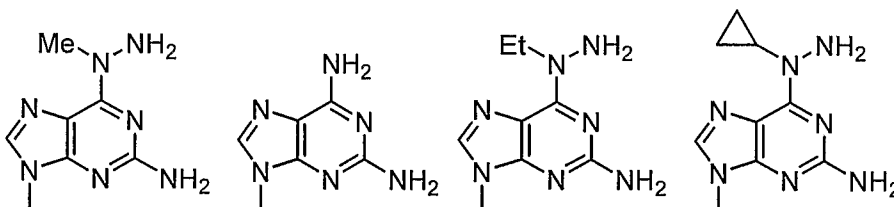
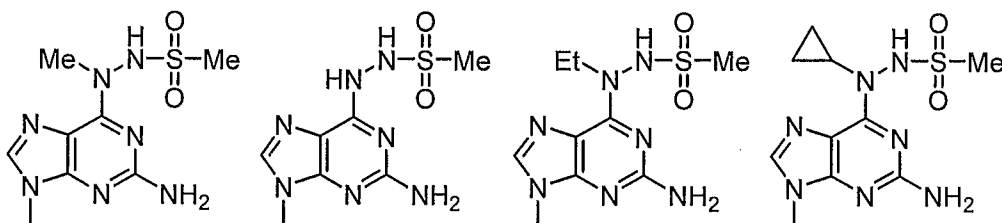
25 In another subgeneric embodiment, the invention provides a compound of formula I, where B is B-2 or B-3, where Z<sub>2</sub> is H or NH<sub>2</sub>; Z<sub>6</sub> is N(CH<sub>3</sub>)NHSO<sub>2</sub>(CH<sub>3</sub>) or NHNHSO<sub>2</sub>(CH<sub>3</sub>); and A is Group (3) or Group (4), with R<sub>2</sub>' = methyl and R<sub>2</sub> = C<sub>1</sub>-C<sub>6</sub> alkyl, phenyl, benzyl, mono-substituted phenyl, mono-substituted benzyl, C<sub>3-5</sub> cycloalkyl or C<sub>3-5</sub> cycloalkyl-(CH<sub>2</sub>)-

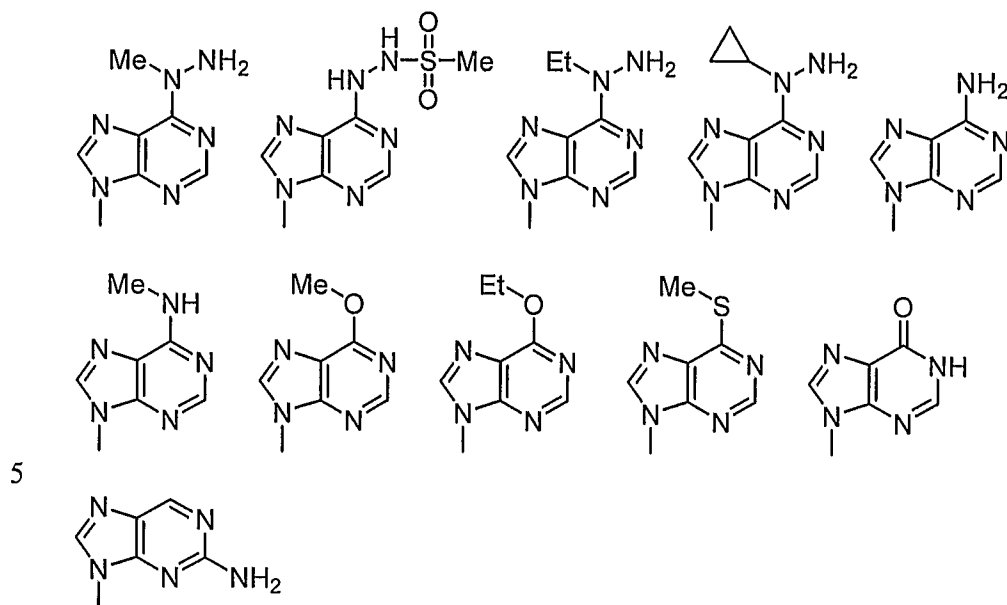
In a more specific subgeneric embodiment, the invention provides a compound of formula I, where B is B-2 or B-3, where Z<sub>2</sub> is H or NH<sub>2</sub>; Z<sub>6</sub> is N(CH<sub>3</sub>)NHSO<sub>2</sub>(CH<sub>3</sub>) or NHNHSO<sub>2</sub>(CH<sub>3</sub>); and A is Group (3) or Group (4), with R<sub>2</sub>'

= methyl and  $R_2$  = o-tolyl, o-chloro phenyl, o-fluoro phenyl, o-trifluoromethyl phenyl, o-methyl benzyl, o-chloro benzyl, o-fluoro benzyl, o-trifluoromethyl benzyl.

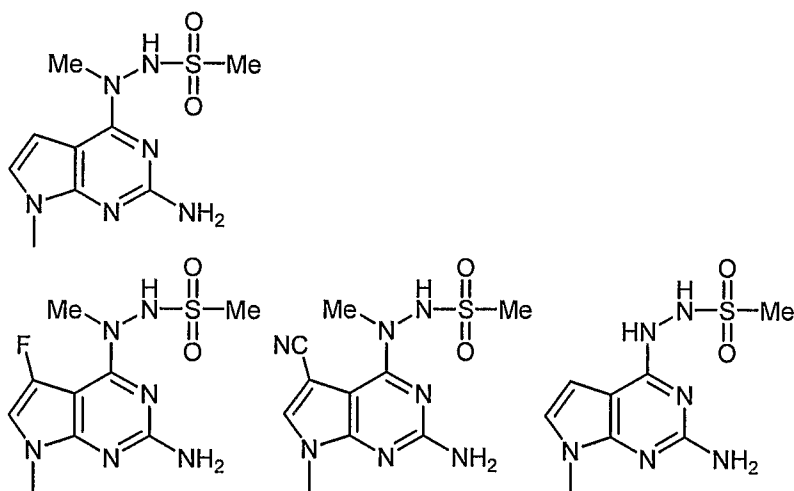
In another more specific subgeneric embodiment, the invention provides a compound of formula I, where B is B-2 or B-3, where  $Z_2$  is H or  $NH_2$ ;  $Z_6$  is  $N(CH_3)NHSO_2(CH_3)$  or  $NHNHSO_2(CH_3)$ ; and A is Group (3) or Group (4), with  $R_2'$  = methyl and  $R_2$  = m-tolyl, m-chloro phenyl, m-fluoro phenyl, m-trifluoromethyl phenyl, m-methyl benzyl, m-chloro benzyl, m-fluoro benzyl, m-trifluoromethyl benzyl.

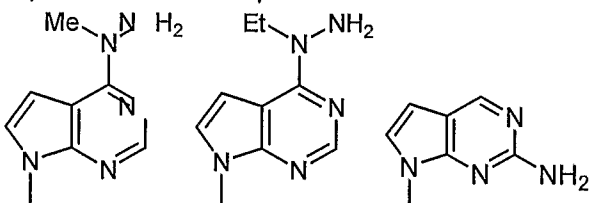
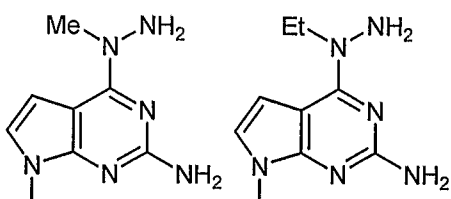
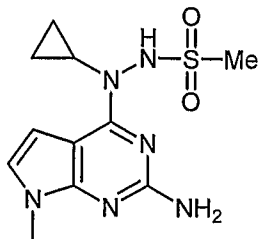
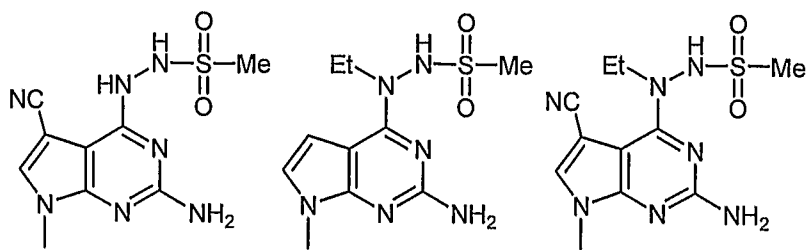
In a still more specific subgeneric embodiment, the invention provides or contemplates a compound of formula I, where B is B-2 and is selected from the following bases:



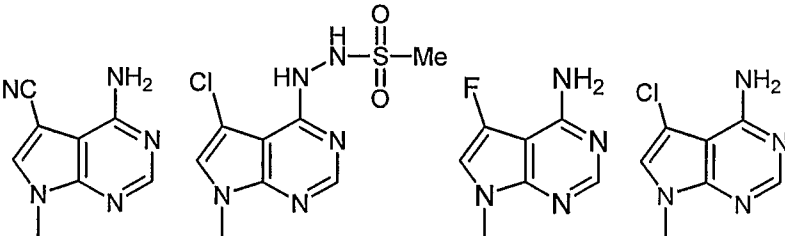
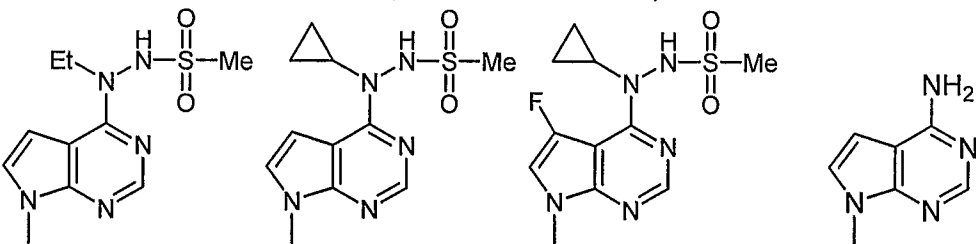
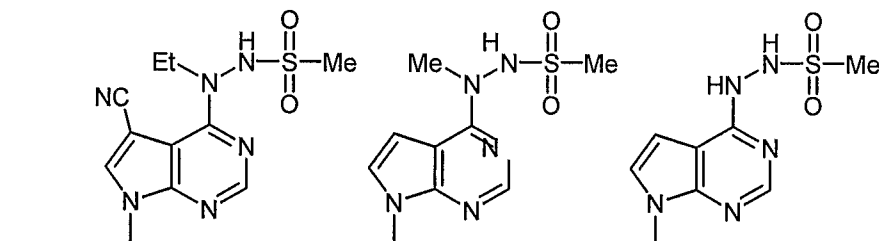


In another more specific embodiment, this invention provides or contemplates  
 10 a compound of formula I, in which B is B-3 and is selected from the following bases:





5

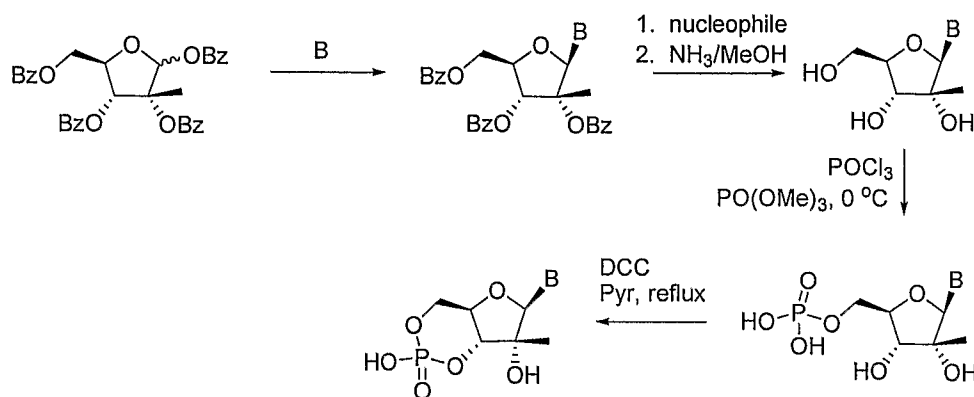


10

### Detailed Description of the Invention

The present invention is directed to various substituted 3', 5'- cyclic  
 5 monophosphate esters of 2'-methyl ribofuranosyl derivatives of heterocyclic bases, as depicted above.

Compounds of this invention may be prepared by a variety of procedures. An exemplary synthetic procedure is shown in Scheme 1 below, where B is a heterocyclic base as previously defined, typically in the form B-H. In Scheme 1 a suitably  
 10 protected 2-methyl ribose is first coupled to the heterocyclic base B (optionally substituted), which is then further modified to produce the desired compounds.



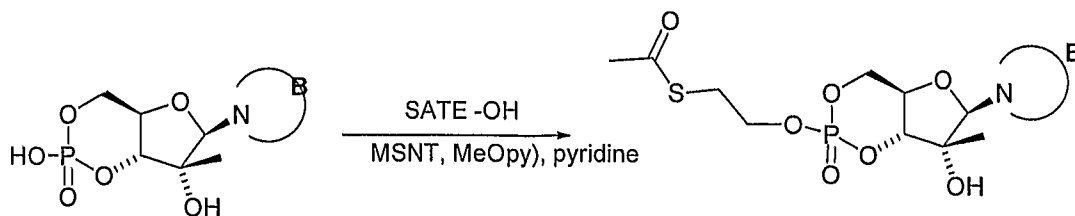
**Scheme 1**

15

Numerous heterocyclic bases are commercially available, and many others may be readily synthesized from commercially available precursors *via* standard published procedures. (See, for example, Vorbruggen, H. and Ruh-Pohlenz, C., *Handbook of Nucleoside Synthesis*, New York, Wiley-Interscience; ISBN:0471093831). Additionally, a number of novel derivatives of heterocyclic bases are disclosed in the commonly owned, co-pending PCT Application titled "6-Hydrazinopurine-2'-methyl Ribonucleosides and Nucleotides for Treatment of HCV,"  
 20 by E. Gunic and F. Rong, filed May 10, 2006 (Attorney Docket Number 6319-3032).

Additional synthetic schemes are shown below. For example, a SATE-cyclic nucleotide analogue can be prepared as illustrated in Scheme 2 below. (SATE = S-acetylthioethyl, MSNT = 1-(2-mesitylenesulfonyl)-3-nitro-1,2,4-triazole).

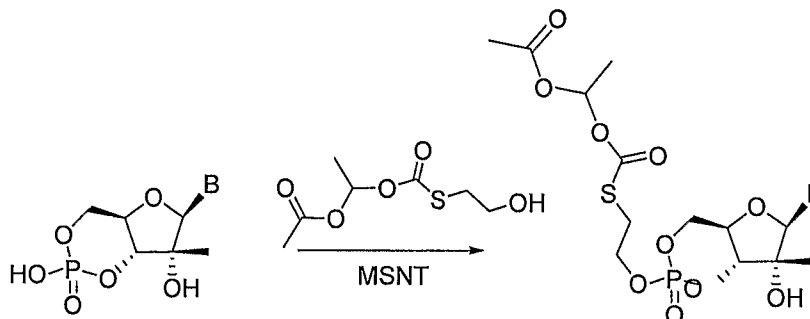
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Scheme 2

In another variation, a derivative where A = Group (3) can be prepared as shown in Scheme 3 below:

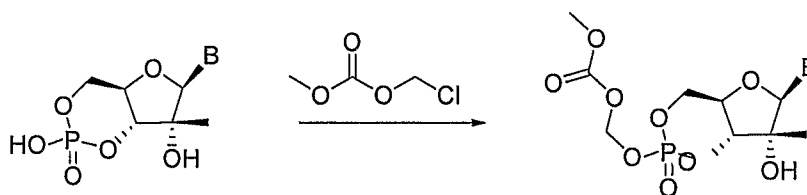
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Scheme 3

In another variation, a carbonic acid ester derivative of the cyclic nucleotide analogue can be prepared as depicted in synthetic Scheme 4 below:

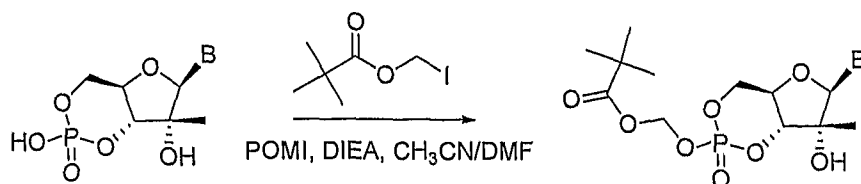
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Scheme 4

More generally, the compounds of scheme 4 can be made using any chloromethyl alkyl carbonate.

In another variation, a pivaloyloxymethyl (POM) cyclic nucleotide analogue can be prepared as shown in synthetic Scheme 5 below:



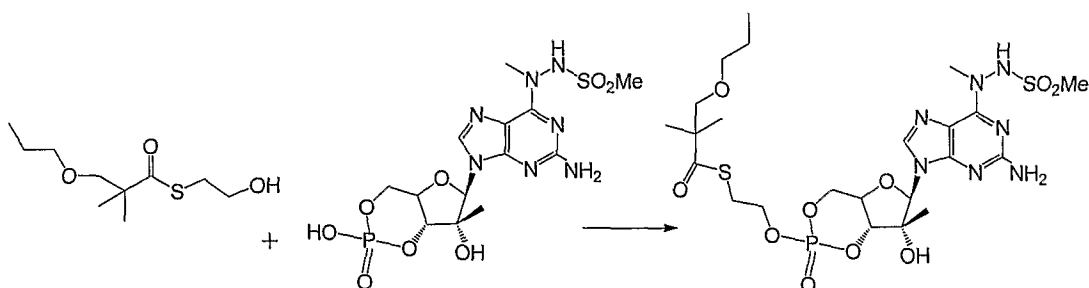
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Scheme 5

In variations of this scheme, one or more hydrogens of the methyl groups of the pivaloyl group may be replaced by halo, alkoxy, or alkyl groups. Alternatively, one of the methyl groups of the pivaloyl group can be replaced by a C<sub>1</sub>-C<sub>4</sub> alkoxy group.

10 In the following chemical structures, if the stereochemical configuration of C'  
4 is not indicated, it should be understood that in each case a ribonucleotide is  
intended.

15 **2-Amino-6-[N-Methyl-N-(methanesulfonylhydrazidyl)-9-[3,5-(O,O'-cyclic-O''-{S'-  
2-ethyl-2,2-dimethyl-3-propoxypropanethioate}phosphoryl)-2-C-methyl-β-D-  
ribofuranosyl]adenine**



20

**2-Amino-6-(N-methyl-N-(methanesulfonylhydrazidyl)-9-(3,5-O,O'-cyclic-  
phosphoryl-2-C-methyl-β-D-ribofuranosyl)adenine triethylammonium salt**

The nucleoside above (403 mg, 1.0 mmole) was dried over P<sub>2</sub>O<sub>5</sub> and dissolved in dry trimethyl phosphate (5.0 ml) by heating. The solution was cooled to 0 °C under argon.

25 To this cold (0 °C) stirred solution was added POCl<sub>3</sub> (186 μL, 2.0 mmol) and the mixture stirred at 0 °C for 6 hr. The mixture was added drop by drop into a cold (0

°C) stirred solution of 0.08 M KOH in H<sub>2</sub>O/CH<sub>3</sub>CN (4:6, 120 ml) mixture during 10 minutes period. After 15 minutes, aq. HCl solution was added to pH 5 (0 °C), and the volume was reduced to 20 ml by evaporation. The solution was then extracted with CHCl<sub>3</sub> (2 x 50 ml) and evaporated to dryness. The residue was suspended in MeOH (50 ml) to precipitate insoluble salts, which were removed by filtration. The filtrate was evaporated to dryness, and the residue was dissolved in water (10 ml) and loaded onto a Sephadex column (bicarbonate form). The column was eluted with water (250 ml), followed by triethylammonium bicarbonate (TEAB, pH ~ 8.0) buffer 0.2 M (250 ml) and 0.4 M (250 ml). The fractions having the required product (mass M<sup>+</sup> 567 and M<sup>-</sup> 565) were collected and lyophilized to give (290 mg, 51%). <sup>31</sup>P NMR (DMSO-d<sub>6</sub>): -2.39 PPM. [HPLC Purification: The filtrate was fractionated by C<sub>8</sub> reverse phase column chromatography with 0.2 M triethylammonium formate buffer in MeOH. Lyophilization of the product containing fraction yields the cyclic phosphate.] <sup>1</sup>H NMR (DMSO-d<sub>6</sub>): δ 0.86 (s, 3H), 1.18 (s, 9H), 3.0 (s, 9H), 3.67 (s, 3H), 4.1 (m, 4H), 5.6 (s, 1H), 5.84 (s, 1H), 6.32 (s, 2H), 7.8 (s, 1H), 9.51 (s, 1H), 10.1 (bs, 1H).

**S-2-hydroxyethyl 2,2-dimethyl-3-propoxypropanethioate:** To a stirred cold solution of methyl 2,2-dimethyl-3-hydroxypropionate (25.0 g, 189.4 mmol) in dry THF (300 ml) at 0 °C in under argon atmosphere was added NaH (60% in oil, 8.0 g, 200.0 mmol) during 30 minutes period. After the addition of NaH, the reaction mixture was stirred at 0 °C for 1 h and at room temperature for 5 h. The reaction mixture was cooled to 0 °C and 1-iodopropane (42.25 g, 250.0 mmol) was added. The reaction mixture was stirred at room temperature for 2 days and at 65 °C for 12 h under argon. It was evaporated to dryness. The residue was partitioned between EtOAc (500 ml) and water (300 ml), neutralized with acetic acid to pH 6 and extracted in EtOAc. The organic layer was washed with brine (200 ml), dried, and concentrated to dryness to give 14 g of crude product.

The above crude product (14 g) was dissolved in THF (50 ml) and treated with 5% KOH in methanol/water (300:25, 325 ml). The reaction mixture was heated at 45 °C for 2 days and evaporated to dryness. The residue was partitioned between EtOAc (200 ml) and 1N KOH (100 ml) and extracted in KOH solution. The EtOAc extract was discarded. The aqueous KOH solution was made acidic with acetic acid and extracted into EtOAc (2 x 100 ml). The organic extract was washed with brine (100ml), dried, and evaporated to dryness to give 4.85 g of the acid.

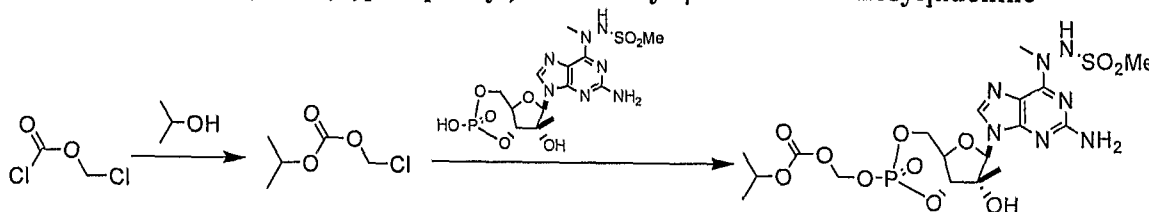
To a stirred solution of the acid (4.85 g, 30.0 mmol) in dry CH<sub>2</sub>Cl<sub>2</sub> (100 ml) at 5 °C under argon was added 1,1'-carbonyldiimidazole (5.25 g, 32.5 mmol) and allowed to stir at room temperature for 4h. The protected ethanethiol, 2-(*tert*-butyldimethylsilyloxy) ethanethiol (5.74 g, 30.0 mmol) was added, and the solution was stirred at room temperature for 12 h. Diluted with CHCl<sub>3</sub> (100 ml), washed with 1N HCl (70 ml), water (100 ml) and brine (50 ml). The organic extract was dried and concentrated to dryness. Residue was purified over silica column using ethyl acetate in hexane as the eluent. Pure fractions were pooled and evaporated dryness to give 9.0 g (89%) of product.

To a stirred solution of protected alcohol (9.0 g, 26.95 mmol) in THF (50 ml) was added tetrabutylammonium fluoride (1 M, 35.0 ml, pH was adjusted to 6 with acetic acid) at room temperature. The reaction mixture was stirred at room temperature for 12 h and evaporated to dryness. The residue was partitioned between EtOAc (300 ml) and water (300 ml) and extracted in EtOAc. The organic extract was washed with brine (100ml), dried, and concentrated to dryness. The residue was purified over silica gel using ethyl acetate in hexane as the eluent. Pure fractions were pooled and evaporated dryness to give 3.0 g (51%) of alcohol. <sup>1</sup>HNMR (CDCl<sub>3</sub>): δ 0.85 (t, 3H), 1.21 (s, 9H), 1.50 (m, 2H), 3.1 (t, 2H), 3.34 (t, 2H), 3.42 (s, 2H), 3.70 (t, 2H).

**2-Amino-6-(*N*-Methyl-*N*-(methanesulfonylhydrazidyl)-9-(3,5-*O,O'*-cyclic-phosphoryl-2-*C*-methyl-β-*D*-ribofuranosyl)adenine triethylammonium salt (114 mg, 0.2 mmole)** was dried over P<sub>2</sub>O<sub>5</sub> and dissolved in dry pyridine (5.0 ml) and allowed to stir at room temperature under argon atmosphere. To the stirred solution was added the SATE alcohol (0.44 g, 2.0 mmol) followed by 1-(2-mesitylene-2-sulfonyl-3-nitro)-1,2,4-triazole (Aldrich, 0.36 g, 1.2 mmole) under argon. The mixture was stirred at room temperature under argon and protected from light for 3 days. Evaporated to dryness and dissolved in CHCl<sub>3</sub> (100 ml). The chloroform solution was washed with water (50 ml) and brine (50 ml). Dried and evaporated to dryness. The residue was purified on a silica gel chromatography using methanol in chloroform as the eluent. The required fractions having the required product (mass M<sup>+</sup> 667) were collected and evaporated below 35 °C to give 19.5 mg (15%). <sup>31</sup>P NMR (DMSO-d<sub>6</sub>): -5.25 PPM. <sup>1</sup>HNMR (DMSO-d<sub>6</sub>): δ 0.79 (m, 3H), 0.96 (s, 3H), 1.10 (m, 9H), 1.4 (m,

2H), 3.0 (s, 3H), 3.68 (s, 3H), 3.96 (s, 1H), 4.1 (m, 2H), 4.2 (m, 1H), 4.6 (m, 2H), 5.9 (s, 1H), 6.2 (s, 1H), 6.4 (s, 2H), 8.1 (s, 1H), 9.5 (s, 1H).

5 **2-Amino-6-[N-Methyl-N-(methanesulfonylhydrazidyl)-9-[3,5-(O,O'-cyclic-O''-isopropylcarboxymethyl}phosphoryl)-2-C-methyl-β-D-ribofuranosyl]adenine**



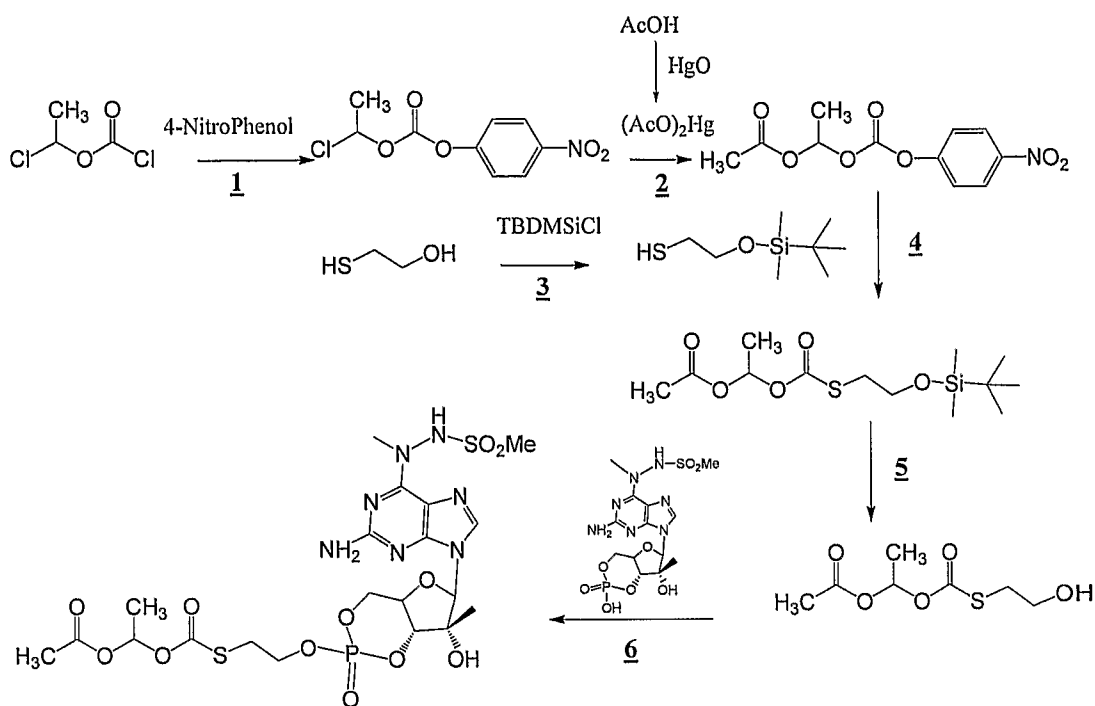
**Preparation of chloromethyl isopropyl carbonate:**

- 10 To an ice cold stirred solution of 2-propanol (15.0 g, 250.0 mmol) in dry pyridine (19.8g, 250.0 mmol) and dry ether (100 ml) under argon was added a solution of chloromethyl chloroformate (29.0g, 226.6 mmol) in dry ether (100 ml) during 30 min period. After the addition, the reaction mixture was stirred at room temperature for 12 hr. Precipitated solid was filtered and washed with dry ether (50 ml) and the filtrate
- 15 was evaporated to dryness. The residue was distilled at 5 mm and temperature 30 °C.

- 2-Amino-6-(N-methyl-N-(methanesulfonylhydrazidyl)-9-(3,5-O,O'-cyclic-phosphoryl-2-C-methyl-β-D-ribofuranosyl)adenine triethylammonium salt** (260 mg, 0.4 mmol) was allowed to stir in dry DMF (10 ml) at room temperature under argon. To the stirred solution was added N,N-diisopropylethylamine (0.103g, 0.8
- 20 mmol) followed by chloromethyl isopropyl carbonate (0.122g, 0.8 mmol). The reaction was stirred at room temperature for 15 min and at 60 °C for 10 hr. The reaction mixture was evaporated to dryness and the residue was purified by silica column using as the eluent methanol in chloroform. The fractions having the required product were pooled, and the mixture was concentrated to dryness. This purified
- 25 material was again purified by HPLC to give 12.6 mg of pure product. The structure of the product was confirmed by <sup>1</sup>H NMR and <sup>31</sup>P NMR.

- 30 **2-Amino-6-[N-Methyl-N-(methanesulfonylhydrazidyl)-9-[3,5-(O,O'-cyclic-O''-{S-acetoxyethyloxycarbonylthioeth-1-yl}phosphoryl)-2-C-methyl-β-D-**

## ribofuranosyl]adenine



5

To an ice-cold solution of 4-nitrophenol (2.0 g, 15 mmol) and triethylamine (1.6 g, 16 mmol) in dichloromethane (20 ml) was added a solution of 1-chloroethyl chloroformate (2.1 g, 19 mmol) in dichloromethane, and the mixture was stirred for 15 min at 0 °C and then overnight at room temperature. The mixture was extracted with dichloromethane (50 ml), washed successively with water (50 ml), 0.5 N sodium hydroxide (50 ml), saturated aqueous sodium chloride solution (50 ml), and water (3 x 50 ml), and dried over Na<sub>2</sub>SO<sub>4</sub>. The dichloromethane solution was filtered and evaporated under reduced pressure, and the residue was purified by silica gel column chromatography with chloroform (100%) as eluent to furnish pure 1-chloroethyl 4-nitrophenyl carbonate, as a white solid in 85% yield.

To a solution of 1-chloroethyl 4-nitrophenyl carbonate (2.0 g, 8.2 mmol) in glacial acetic acid (50 ml) at room temperature was added mercuric acetate (3.8 g, 12 mol) and the mixture was stirred for 40 h. Water (100) was added slowly to the mixture, which was then extracted with diethyl ether (2 x 65 ml). The ether phase was

washed with 0.5 N NaOH (30 ml), saturated NaCl solution (30 ml), and water (2 x 50 ml) and dried over anhydrous Na<sub>2</sub>SO<sub>4</sub>. The solution was filtered, concentrated under reduced pressure, and purified by silica gel column chromatography to afford pure 1-acetoxyethyl 4-nitrophenyl carbonate in 89% yield as a colorless liquid.

5 To a solution of 2-mercaptoethanol (5.0 g, 64 mmol) in dichloromethane (25 ml) was added imidazole (10.5 g, 154 mmol). The mixture was stirred and then added *tert*-butyl dimethyl silyl chloride (10.61 g, 70.4 mmol) in dichloromethane (15 ml). The mixture was stirred continuously at room temperature for 2 hours and at 35 °C for 2 hours. The mixture was evaporated under reduced pressure to dryness. The residue  
10 was purified by silica gel column chromatograph using 15% ethyl acetate / hexane as eluent to afford pure 2-mercaptoethanoxy *tert*-butyldimethylsilane in 85% yield as a colorless liquid.

4. To a solution of 2-mercaptoethanoxy *tert*-butyl dimethylsilane (2.0 g, 10.4 mmol) in dimethylformamide (25 ml) at room temperature was added 1-acetoxyethyl  
15 4-nitrophenyl carbonate (2.8 g, 10.4 mmol) in dimethylformamide ( 5 ml). The mixture was then heated to 75 °C for 8 hours. The mixture was then evaporated under reduced pressure to dryness. The residue was purified by silica gel column chromatography using 10% EtOAc/hexane as eluent to afford pure 1-acetoxyethyl *t*-butyl dimethylsilyloxyethyl thiocarbonate in 65% yield.

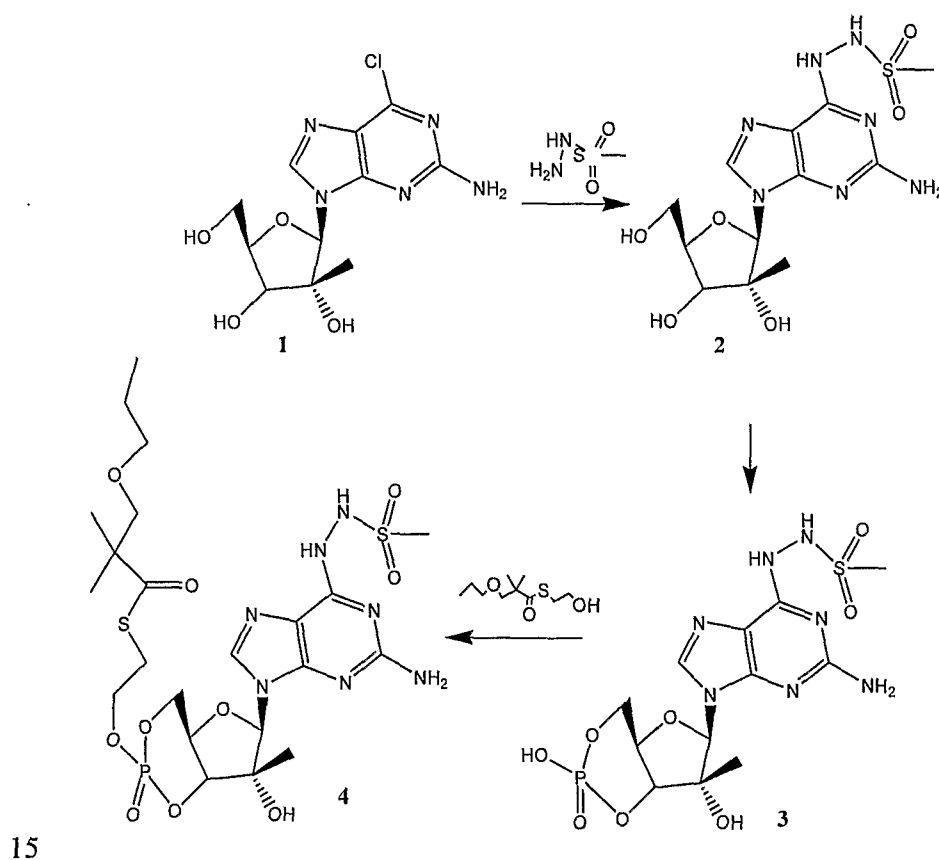
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5. To a solution of 1-((2-(*tert*-butyldimethylsilyloxy)ethylthio)carbonyloxy)ethyl acetate (2.0 g, 6.2 mmol) in 25 ml THF was added dropwise at 0°C 1.0 M tetrabutyl ammonium fluoride in THF (6.2 ml, 6.2 mmol). The mixture was stirred continuously at room temperature overnight. The mixture was then evaporated to dryness under  
25 reduced pressure. The residue was purified by silica gel column chromatography using 5% methanol in chloroform as eluent to give the product 1-((2-hydroxyethylthio)carbonyloxy)ethyl acetate in 75% yield.

To a solution of 2-amino-6-(*N*-methyl-*N*-(methanesulfonylhydrazidyl)-9-  
30 (3,5-*O,O'*-cyclic-phosphoryl-2-*C*-methyl-*b-D*-ribofuranosyl)adenine (100 mg, 0.21 mmol) in DMF (5 ml) was added 1-(2-mesitylenesulfonyl)-3-nitro-1,2,4-triazole (62 mg, 0.21 mmol) in DMF (1 ml) and 1-((2-hydroxyethylthio)carbonyloxy)ethyl

acetate (134 mg, 0.64 mmol) in DMF (0.5 ml). The mixture was stirred continuously at room temperature for 10 hours and at 65 °C for 2 days. The mixture was then evaporated under reduced pressure to dryness. The residue was purified by silica gel column chromatograph using 3% methanol in chloroform as eluent to give the final product, 2'-methyl-3'-5'-cyclic -N6-methyl-N6-(methanesulfonylhydrazido)-2-amino-adenosine-2-[S-(1-acetoxyethoxythiocarbonyl)]-eth-1-yl phosphotriester in 35% yield.

10 **2-Amino-6-[N-(methanesulfonylhydrazidyl)-9-[3,5-(O,O'-cyclic-O''-{S-2-ethyl-2,2-dimethyl-3-propoxypropanethioate }phosphoryl)-2-C-methyl-β-D-ribofuranosyl]adenine**



**2-amino-6-(N-(methanesulfonylhydrazidyl)-9-(2-C-methyl-β-D-ribofuranosyl)adenine:**

(2): 2-(2-amino-6-chloro-9H-purin-9-yl)-5-(hydroxymethyl)-3-methyl tetrahydrofuran-3,4-diol **1** (2.0 g, 6.35 mmol) and methane sulfonylhydrazide (4.0 g, 36.36 mmol) in a mixture of ethyl alcohol (100 ml) and dioxane (20 ml) was heated at 92 °C under argon for 2 days. Reaction mixture was evaporated to dryness. The residue was purified over silica gel using methanol in chloroform as the eluent. Pure fractions were pooled and evaporated dryness to give 1.0 g (40%) of product **2**.  
<sup>1</sup>HNMR (DMSO-d<sub>6</sub>): δ 0.78 (s, 3H), 3.02 (s, 3H), 3.60 (d, 1H), 3.74 (m, 2H), 4.00 (d, 1H), 5.78 (s, 1H), 6.20 (s, sH), 7.72 (s, 1H), 8.13 (s, 1H).

10 **2-Amino-6-(N-(methanesulfonylhydrazidyl)-9-(3,5-O,O'-cyclic-phosphoryl)-2-C-methyl-β-D-ribofuranosyl)adenine triethylammonium salt (3)**: Nucleoside **2** (0.9 mg, 2.3 mmole) was dried over P<sub>2</sub>O<sub>5</sub> and dissolved in dry trimethyl phosphate (5.0 ml) by heating. The solution was cooled to 0 °C under argon. To this cold (0 °C) stirred solution was added POCl<sub>3</sub> (1.0 ml, 10.8 mmol). The mixture was stirred at 0 °C for 6 hr. then added dropwise into a cold (0 °C) stirred solution of 0.08 M KOH in H<sub>2</sub>O/CH<sub>3</sub>CN (4:6, 600 ml) mixture over 30 minutes. After 15 minutes, the mixture was neutralized to pH 5 (0 °C) with aq. HCl solution, and its volume was reduced by evaporation to 20 ml. The aqueous solution was extracted with CHCl<sub>3</sub> (2 x 100 ml) and discarded. The aqueous solution was evaporated to dryness. The residue was suspended in MeOH (100 ml) to precipitate insoluble salts and filtered off. The MeOH filtrate was evaporated to dryness. The residue was dissolved in water (10 ml) and loaded on top of Sephadex column (bicarbonate form). The column was eluted with water (500 ml) followed by triethylammonium bicarbonate (TEAB, pH ~ 8.0) buffer 0.2 M (500 ml) and 0.4 M (500 ml). The fractions having the required product (mass M<sup>+</sup> 452 and M<sup>-</sup> 450) were collected and lyophilized to give (500 mg, 51%).  
25 <sup>31</sup>P NMR (DMSO-d<sub>6</sub>): -2.39 PPM. [HPLC Purification: The filtrate was fractionated by C<sub>8</sub> reverse-phase chromatography (25 cm x 3 cm) with 0.2 M triethylammonium formate buffer in MeOH. Lyophilization of the product containing fraction yields the cyclic phosphate.]  
30 <sup>1</sup>HNMR (DMSO-d<sub>6</sub>): δ 0.86 (s, 3H), 1.18 (s, 9H), 3.0 (s, 9H), 4.1 (m, 4H), 5.6 (s, 1H), 5.84 (s, 1H), 6.32 (s, 2H), 7.8 (s, 1H), 9.51 (s, 1H), 10.1 (bs, 1H).

**2-Amino-6-[N-(methanesulfonylhydrazidyl)-9-[3,5-(O,O'-cyclic-O''-{S-2-ethyl-2,2-dimethyl-3-propoxypropanethioate}phosphoryl)-2-C-methyl-β-D-**

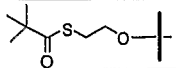
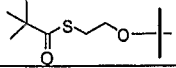
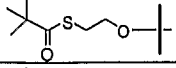
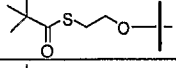
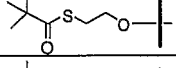
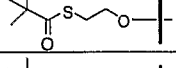
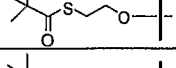
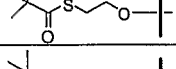
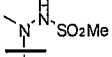
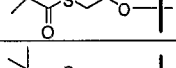
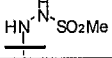
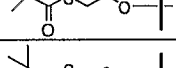
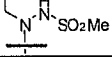
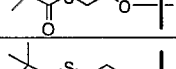
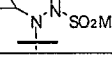
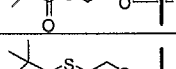

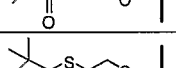

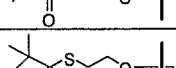

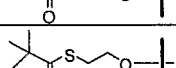
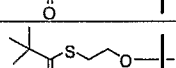
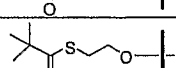
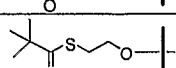
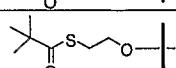
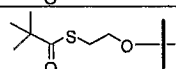
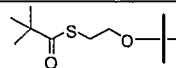
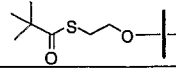

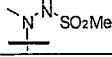
**ribofuranosyl]adenine (4):** Cyclic phosphate TEA salt **3** ( 220 mg, 0.4 mmole) was dried over P<sub>2</sub>O<sub>5</sub> and dissolved in dry pyridine (5.0 ml) and allowed to stir at room temperature under argon atmosphere. To the stirred solution was added S-2-hydroxyethyl 2,2-dimethyl-3-propoxypropanethioate (0.88 g, 4.0 mmol) followed by 1-(2-mesitylene-2-sulfonyl-3-nitro)-1,2,4-triazole (Aldrich, 0.72 g, 2.4 mmole) under argon. The mixture was stirred at room temperature under argon and protected from light for 3 days. Evaporated to dryness and dissolved in CHCl<sub>3</sub> (100 ml). The chloroform solution was washed with water (50 ml) and brine (50 ml). Dried and evaporated to dryness. The residue was purified on a silica gel chromatography using methanol in chloroform as the eluent. (Note: Purification might require 2 times on silica column). The required fractions having the required product (mass M<sup>+</sup> 653) were collected and evaporated below 35 °C to give 19.5 mg (15%). <sup>31</sup>P NMR (DMSO-d<sub>6</sub>): -5.17 PPM and -3.99 PPM. <sup>1</sup>H NMR (DMSO-d<sub>6</sub>): δ 0.78 (m, 3H), 0.96 (s, 3H), 1.13 (m, 6H), 1.4 (m, 2H), 3.0 (s, 3H), 3.38 (m, 2H), 4.1 (m, 3H), 4.2 (m, 1H), 4.6 (m, 3H), 5.9 (s, 1H), 6.06 (s, 1H), 6.26 (m, 2H), 8.1 (s, 1H), 9.06 (s, 1H), 9.62 (s, 1H).

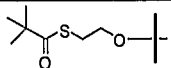
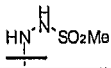
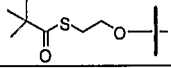
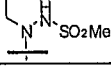
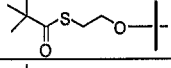
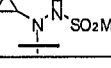
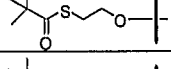
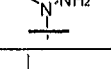
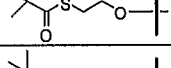
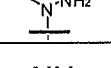
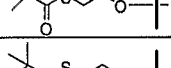
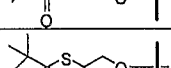
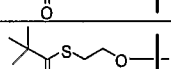
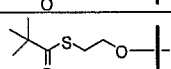
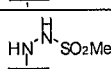
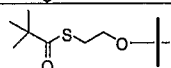
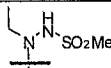
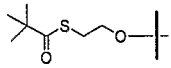
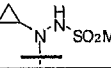
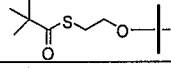
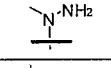
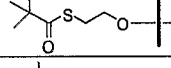
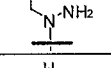
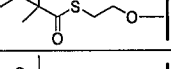
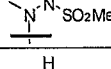
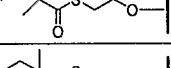
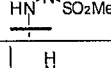
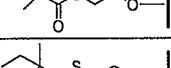
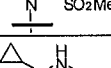
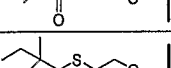
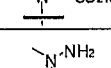
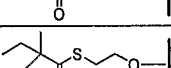
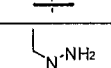
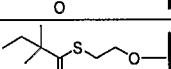
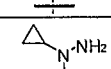
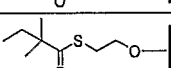
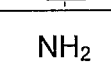
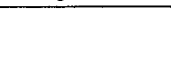


Additional prophetic examples are shown in Table 2 below

TABLE 2

## 20 ADDITIONAL CONTEMPLATED COMPOUNDS OF FORMULA I

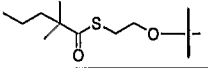
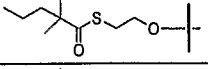
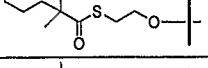
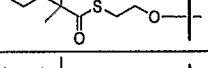
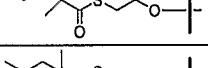
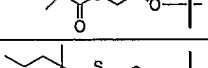
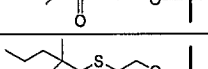
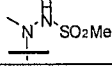
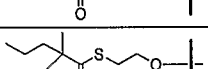
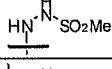
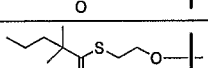
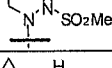
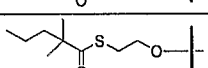
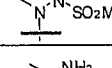
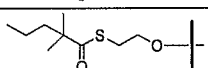
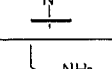
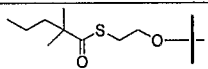
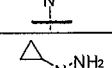
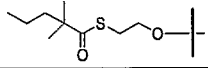
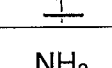
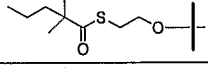
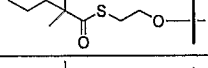
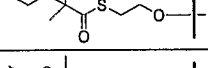
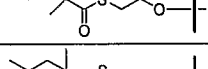
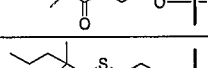
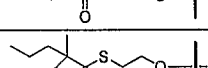
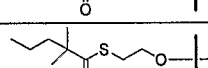
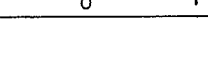

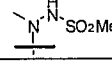
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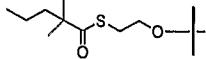
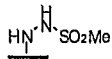
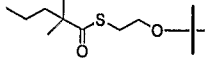
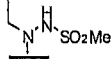
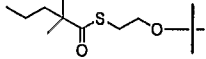
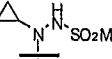
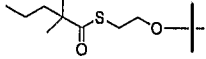

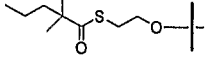

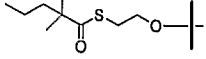
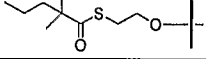
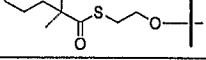
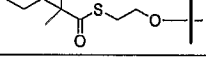
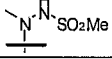
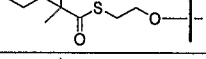
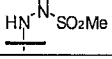
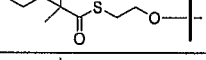
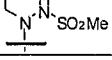
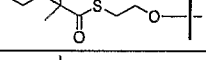
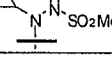
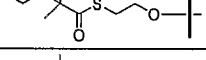

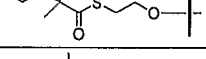

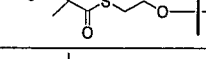
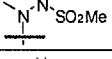
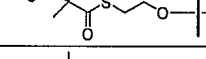
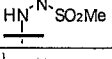
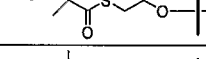
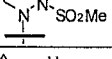
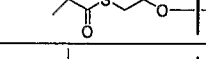
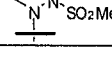
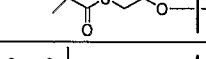

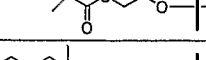

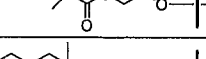
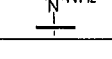
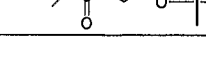
CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
8		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
9		B-2	NH <sub>2</sub>	OH	
10		B-2	NH <sub>2</sub>	NHMe	
11		B-2	NH <sub>2</sub>	OMe	
12		B-2	NH <sub>2</sub>	OEt	
13		B-2	NH <sub>2</sub>	SMe	
14		B-2	NH <sub>2</sub>	H	
15		B-2	H		
16		B-2	H		
17		B-2	H		
18		B-2	H		
19		B-2	H		
20		B-2	H		
21		B-2	H		
22		B-2	H	NH <sub>2</sub>	
23		B-2	H	OH	
24		B-2	H	NHMe	
25		B-2	H	OMe	
26		B-2	H	OEt	
27		B-2	H	SMe	
28		B-1-a			
29		B-1-b			
30		B-3	NH <sub>2</sub>		H

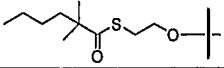
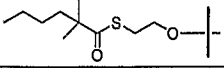
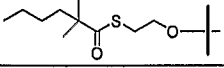
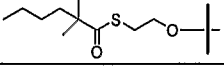
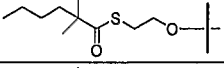
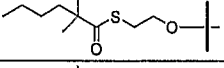
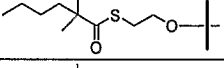
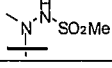
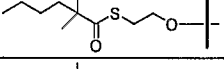
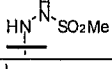
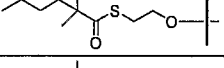
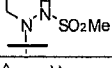
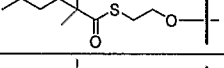
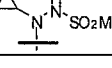
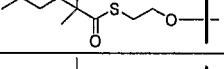
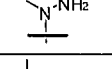
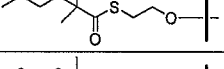
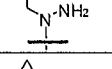
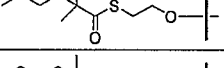
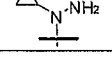
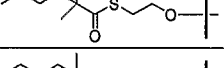
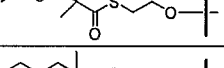
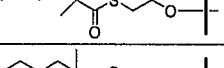
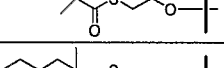
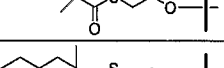
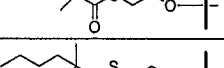
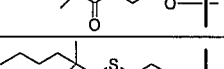
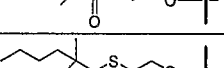
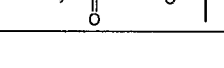
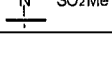
CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
31		B-3	NH <sub>2</sub>		H
32		B-3	NH <sub>2</sub>		H
33		B-3	NH <sub>2</sub>		H
34		B-3	NH <sub>2</sub>		H
35		B-3	NH <sub>2</sub>		H
36		B-3	H	NH <sub>2</sub>	CN
37		B-3	H	NH <sub>2</sub>	H
38		B-3	H	NH <sub>2</sub>	F
39		B-3	H		H
40		B-3	H		H
41		B-3	H		H
42		B-3	H		H
43		B-3	H		H
44		B-3	H		H
45		B-2	NH <sub>2</sub>		
46		B-2	NH <sub>2</sub>		
47		B-2	NH <sub>2</sub>		
48		B-2	NH <sub>2</sub>		
49		B-2	NH <sub>2</sub>		
50		B-2	NH <sub>2</sub>		
51		B-2	NH <sub>2</sub>		
52		B-2	NH <sub>2</sub>	NH <sub>2</sub>	

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
53		B-2	NH <sub>2</sub>	OH	
54		B-2	NH <sub>2</sub>	NHMe	
55		B-2	NH <sub>2</sub>	OMe	
56		B-2	NH <sub>2</sub>	OEt	
67		B-2	NH <sub>2</sub>	SMe	
58		B-2	NH <sub>2</sub>	H	
59		B-2	H		
60		B-2	H		
61		B-2	H		
62		B-2	H		
63		B-2	H		
64		B-2	H		
65		B-2	H		
66		B-2	H	NH <sub>2</sub>	
67		B-2	H	OH	
68		B-2	H	NHMe	
69		B-2	H	OMe	
70		B-2	H	OEt	
71		B-2	H	SMe	
72		B-1-a			
73		B-1-b			
74		B-3	NH <sub>2</sub>		H

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
75		B-3	NH <sub>2</sub>		H
76		B-3	NH <sub>2</sub>		H
77		B-3	NH <sub>2</sub>		H
78		B-3	NH <sub>2</sub>		H
79		B-3	NH <sub>2</sub>		H
80		B-3	H	NH <sub>2</sub>	CN
81		B-3	H	NH <sub>2</sub>	H
82		B-3	H	NH <sub>2</sub>	F
83		B-3	H		H
84		B-3	H		H
85		B-3	H		H
86		B-3	H		H
87		B-3	H		H
88		B-3	H		H
89		B-2	NH <sub>2</sub>		
90		B-2	NH <sub>2</sub>		
91		B-2	NH <sub>2</sub>		
92		B-2	NH <sub>2</sub>		
93		B-2	NH <sub>2</sub>		
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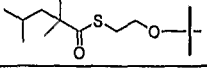
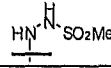
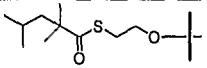
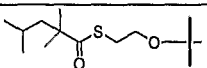
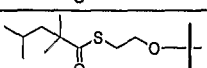
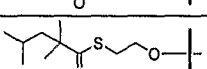
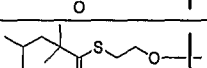
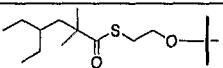
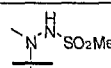
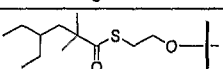
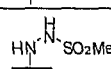
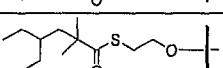
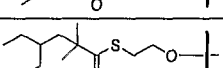
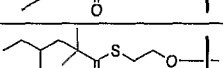
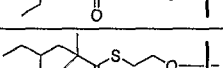
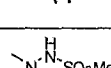
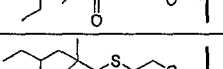
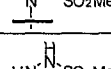
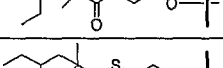
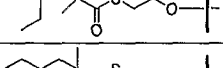
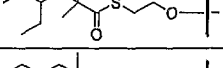
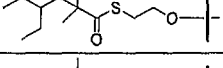
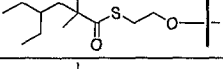
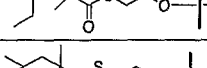
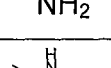
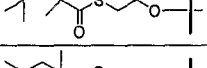
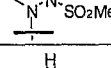
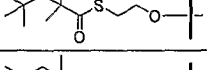
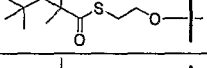
CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
97		B-2	NH <sub>2</sub>	OH	
98		B-2	NH <sub>2</sub>	NHMe	
99		B-2	NH <sub>2</sub>	OMe	
100		B-2	NH <sub>2</sub>	OEt	
101		B-2	NH <sub>2</sub>	SMe	
102		B-2	NH <sub>2</sub>	H	
103		B-2	H		
104		B-2	H		
105		B-2	H		
106		B-2	H		
107		B-2	H		
108		B-2	H		
109		B-2	H		
110		B-2	H	NH <sub>2</sub>	
111		B-2	H	OH	
112		B-2	H	NHMe	
113		B-2	H	OMe	
114		B-2	H	OEt	
115		B-2	H	SMe	
116		B-1-a			
117		B-1-b			
118		B-3	NH <sub>2</sub>		H

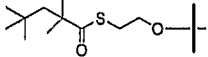
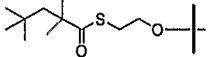
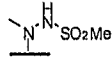
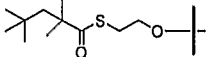
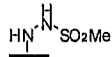
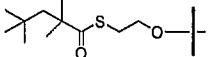
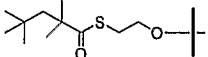
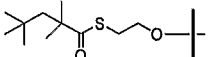
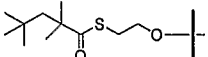
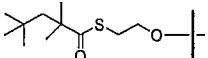
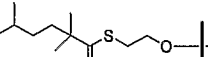
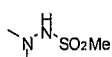
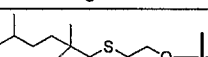
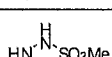
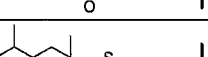
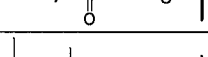
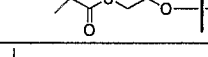
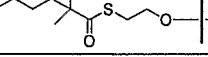
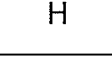
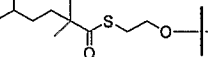
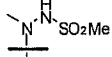
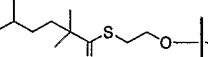
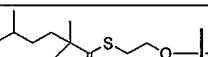
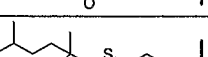
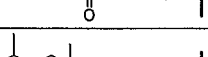
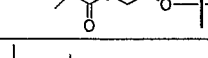
CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
119		B-3	NH <sub>2</sub>		H
120		B-3	NH <sub>2</sub>		H
121		B-3	NH <sub>2</sub>		H
122		B-3	NH <sub>2</sub>		H
123		B-3	NH <sub>2</sub>		H
124		B-3	H	NH <sub>2</sub>	CN
125		B-3	H	NH <sub>2</sub>	H
126		B-3	H	NH <sub>2</sub>	F
127		B-3	H		H
128		B-3	H		H
129		B-3	H		H
130		B-3	H		H
131		B-3	H		H
132		B-3	H		H
133		B-2	NH <sub>2</sub>		
134		B-2	NH <sub>2</sub>		
135		B-2	NH <sub>2</sub>		
136		B-2	NH <sub>2</sub>		
137		B-2	NH <sub>2</sub>		
138		B-2	NH <sub>2</sub>		
139		B-2	NH <sub>2</sub>		
140		B-2	NH <sub>2</sub>	NH <sub>2</sub>	

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
141		B-2	NH <sub>2</sub>	OH	
142		B-2	NH <sub>2</sub>	NHMe	
143		B-2	NH <sub>2</sub>	OMe	
144		B-2	NH <sub>2</sub>	OEt	
145		B-2	NH <sub>2</sub>	SMe	
146		B-2	NH <sub>2</sub>	H	
147		B-2	H		
148		B-2	H		
149		B-2	H		
150		B-2	H		
151		B-2	H		
152		B-2	H		
153		B-2	H		
154		B-2	H	NH <sub>2</sub>	
155		B-2	H	OH	
156		B-2	H	NHMe	
167		B-2	H	OMe	
158		B-2	H	OEt	
159		B-2	H	SMe	
160		B-1-a			
161		B-1-b			
162		B-3	NH <sub>2</sub>		H

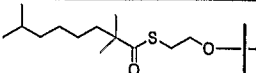
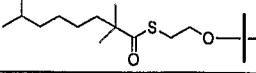
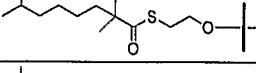
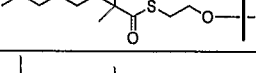
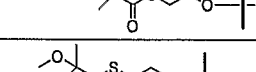
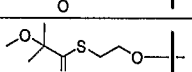
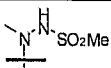
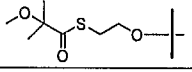
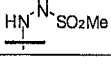
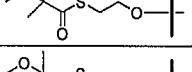
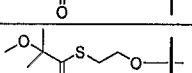
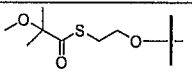
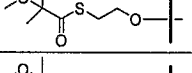
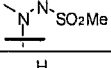
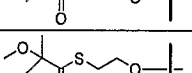
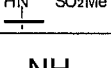
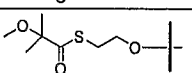
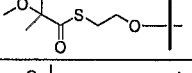
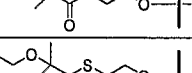
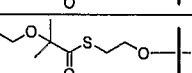
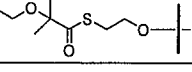

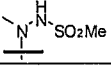

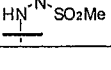


CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
163		B-3	NH <sub>2</sub>		H
164		B-3	NH <sub>2</sub>		H
165		B-3	NH <sub>2</sub>		H
166		B-3	NH <sub>2</sub>		H
167		B-3	NH <sub>2</sub>		H
168		B-3	H	NH <sub>2</sub>	CN
169		B-3	H	NH <sub>2</sub>	H
170		B-3	H	NH <sub>2</sub>	F
171		B-3	H		H
172		B-3	H		H
173		B-3	H		H
174		B-3	H		H
175		B-3	H		H
176		B-3	H		H
177		B-2	NH <sub>2</sub>		
178		B-2	NH <sub>2</sub>		
179		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
180		B-2	NH <sub>2</sub>	OH	
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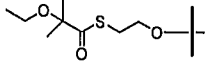
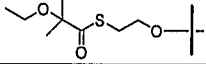
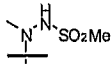
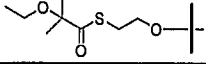
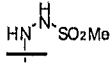
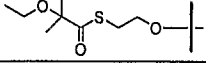
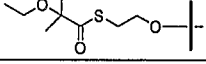
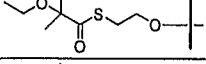
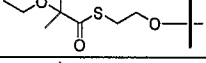
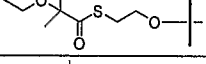
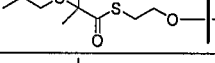
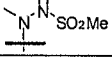
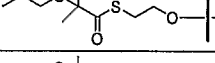
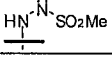
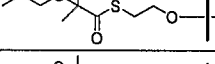
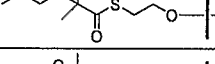
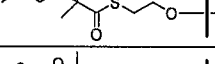
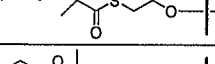
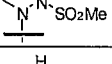
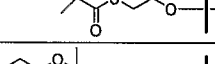
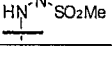
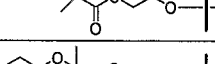
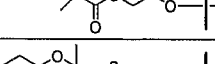
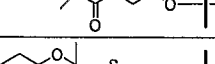
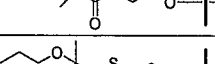
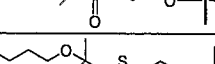
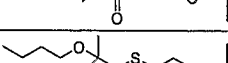
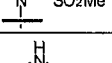
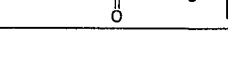
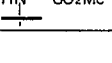
CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
185		B-2	H	OH	
186		B-1-a			
187		B-1-b			
188		B-3	H	NH <sub>2</sub>	H
189		B-2	NH <sub>2</sub>		
190		B-2	NH <sub>2</sub>		
191		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
192		B-2	NH <sub>2</sub>	OH	
193		B-2	NH <sub>2</sub>	H	
194		B-2	H		
195		B-2	H		
196		B-2	H	NH <sub>2</sub>	
197		B-2	H	OH	
198		B-1-a			
199		B-1-b			
200		B-3	H	NH <sub>2</sub>	H
201		B-2	NH <sub>2</sub>		
202		B-2	NH <sub>2</sub>		
203		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
204		B-2	NH <sub>2</sub>	OH	
205		B-2	NH <sub>2</sub>	H	
206		B-2	H		

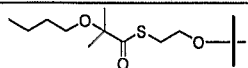
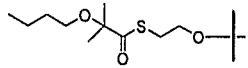
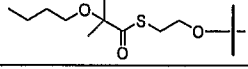
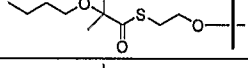
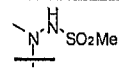
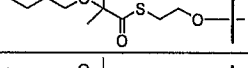
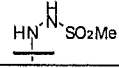
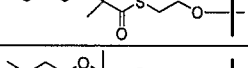
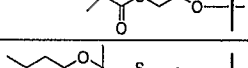
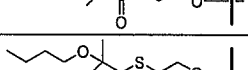
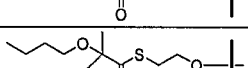
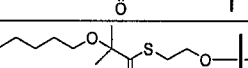
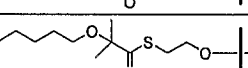
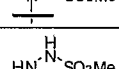
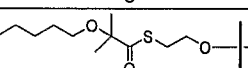
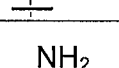
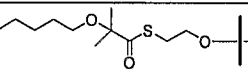
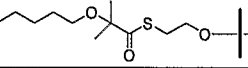
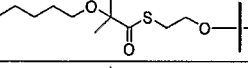
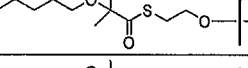
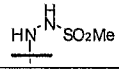
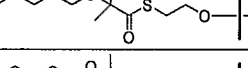
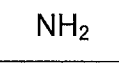
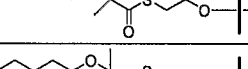
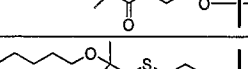
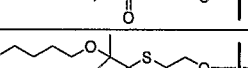
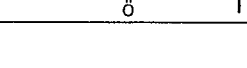

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
207		B-2	H		
208		B-2	H	NH <sub>2</sub>	
209		B-2	H	OH	
210		B-1-a			
211		B-1-b			
212		B-3	H	NH <sub>2</sub>	H
213		B-2	NH <sub>2</sub>		
214		B-2	NH <sub>2</sub>		
215		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
216		B-2	NH <sub>2</sub>	OH	
217		B-2	NH <sub>2</sub>	H	
218		B-2	H		
219		B-2	H		
220		B-2	H	NH <sub>2</sub>	
221		B-2	H	OH	
222		B-1-a			
223		B-1-b			
224		B-3	H	NH <sub>2</sub>	H
225		B-2	NH <sub>2</sub>		
226		B-2	NH <sub>2</sub>		
227		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
228		B-2	NH <sub>2</sub>	OH	

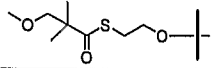
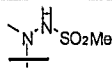
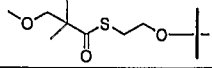
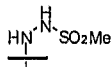
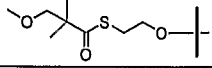
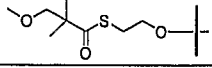
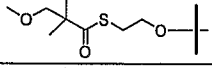
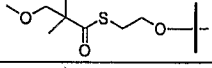
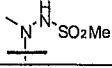
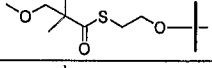
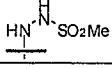
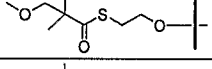
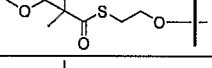
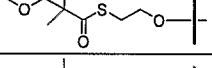
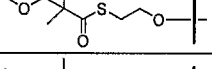
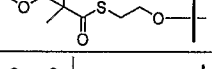
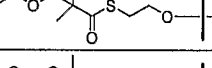
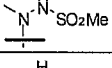
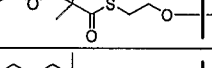
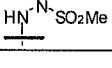
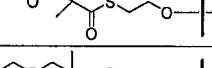
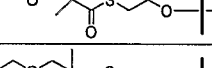
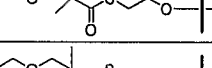
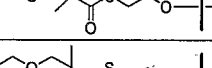
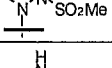
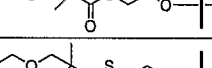
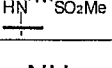
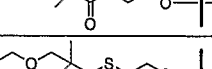
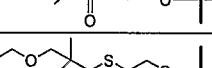
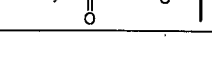
CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
229		B-2	NH <sub>2</sub>	H	
230		B-2	H		
231		B-2	H		
232		B-2	H	NH <sub>2</sub>	
233		B-2	H	OH	
234		B-1-a			
235		B-1-b			
236		B-3	H	NH <sub>2</sub>	H
237		B-2	NH <sub>2</sub>		
238		B-2	NH <sub>2</sub>		
239		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
240		B-2	NH <sub>2</sub>	OH	
241		B-2	NH <sub>2</sub>	H	
242		B-2	H		
243		B-2	H		
244		B-2	H	NH <sub>2</sub>	
245		B-2	H	OH	
246		B-1-a			
247		B-1-b			
248		B-3	H	NH <sub>2</sub>	H

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
249		B-2	NH <sub>2</sub>		
250		B-2	NH <sub>2</sub>		
251		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
252		B-2	NH <sub>2</sub>	OH	
253		B-2	NH <sub>2</sub>	H	
254		B-2	H		
255		B-2	H		
256		B-2	H	NH <sub>2</sub>	
267		B-2	H	OH	
258		B-1-a			
259		B-1-b			
260		B-3	H	NH <sub>2</sub>	H
261		B-2	NH <sub>2</sub>		
262		B-2	NH <sub>2</sub>		
263		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
264		B-2	NH <sub>2</sub>	OH	
265		B-2	NH <sub>2</sub>	H	
266		B-2	H		
267		B-2	H		

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
268		B-2	H	NH <sub>2</sub>	
269		B-2	H	OH	
270		B-1-a			
271		B-1-b			
272		B-3	H	NH <sub>2</sub>	H
273		B-2	NH <sub>2</sub>		
274		B-2	NH <sub>2</sub>		
275		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
276		B-2	NH <sub>2</sub>	OH	
277		B-2	NH <sub>2</sub>	H	
278		B-2	H		
279		B-2	H		
280		B-2	H	NH <sub>2</sub>	
281		B-2	H	OH	
282		B-1-a			
283		B-1-b			
284		B-3	H	NH <sub>2</sub>	H
285		B-2	NH <sub>2</sub>		
286		B-2	NH <sub>2</sub>		
287		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
288		B-2	NH <sub>2</sub>	OH	

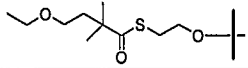
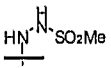
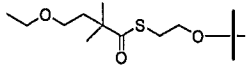
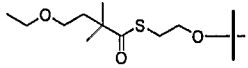
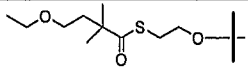
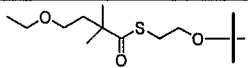
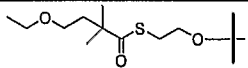
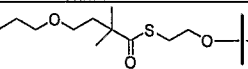
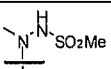
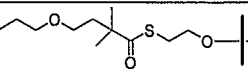
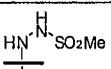
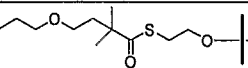
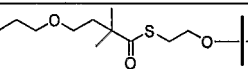
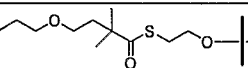
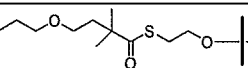
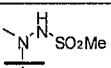
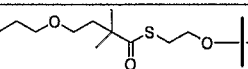
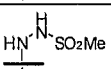
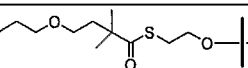
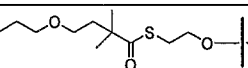
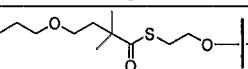
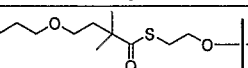
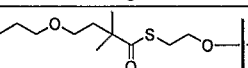
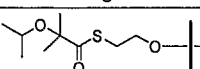
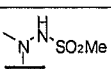
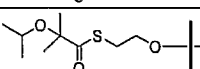
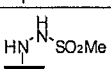
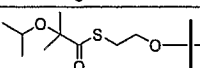
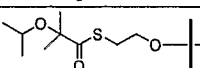
CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
289		B-2	NH <sub>2</sub>	H	
290		B-2	H		
291		B-2	H		
292		B-2	H	NH <sub>2</sub>	
293		B-2	H	OH	
294		B-1-a			
295		B-1-b			
296		B-3	H	NH <sub>2</sub>	H
297		B-2	NH <sub>2</sub>		
298		B-2	NH <sub>2</sub>		
299		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
300		B-2	NH <sub>2</sub>	OH	
301		B-2	NH <sub>2</sub>	H	
302		B-2	H		
303		B-2	H		
304		B-2	H	NH <sub>2</sub>	
305		B-2	H	OH	
306		B-1-a			
307		B-1-b			
308		B-3	H	NH <sub>2</sub>	H
309		B-2	NH <sub>2</sub>		
310		B-2	NH <sub>2</sub>		

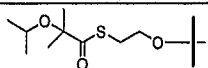
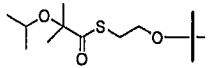
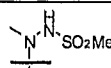
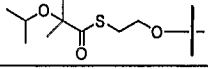
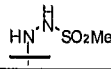
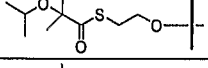
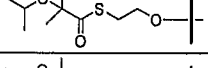
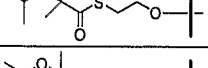
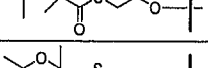
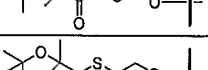
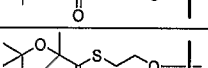
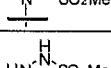
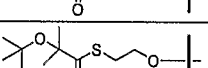
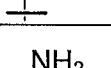
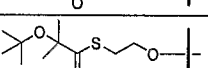
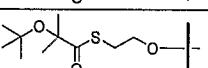
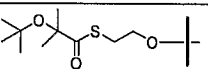
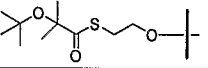
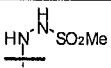
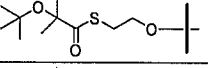
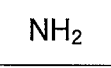
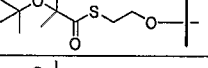
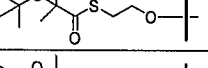
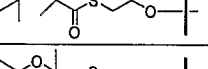
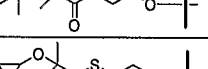
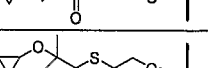
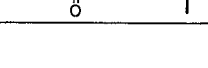
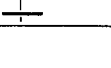


CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
311		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
312		B-2	NH <sub>2</sub>	OH	
313		B-2	NH <sub>2</sub>	H	
314		B-2	H		
315		B-2	H		
316		B-2	H	NH <sub>2</sub>	
317		B-2	H	OH	
318		B-1-a			
319		B-1-b			
320		B-3	H	NH <sub>2</sub>	H
321		B-2	NH <sub>2</sub>		
322		B-2	NH <sub>2</sub>		
323		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
324		B-2	NH <sub>2</sub>	OH	
325		B-2	NH <sub>2</sub>	H	
326		B-2	H		
327		B-2	H		
328		B-2	H	NH <sub>2</sub>	
329		B-2	H	OH	
330		B-1-a			
331		B-1-b			
332		B-3	H	NH <sub>2</sub>	H

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
333		B-2	NH <sub>2</sub>		
334		B-2	NH <sub>2</sub>		
335		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
336		B-2	NH <sub>2</sub>	OH	
337		B-2	NH <sub>2</sub>	H	
338		B-2	H		
339		B-2	H		
340		B-2	H	NH <sub>2</sub>	
341		B-2	H	OH	
342		B-1-a			
343		B-1-b			
344		B-3	H	NH <sub>2</sub>	H
345		B-2	NH <sub>2</sub>		
346		B-2	NH <sub>2</sub>		
347		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
348		B-2	NH <sub>2</sub>	OH	
349		B-2	NH <sub>2</sub>	H	
350		B-2	H		
351		B-2	H		
352		B-2	H	NH <sub>2</sub>	
353		B-2	H	OH	
354		B-1-a			

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
355		B-1-b			
356		B-3	H	NH <sub>2</sub>	H
367		B-2	NH <sub>2</sub>		
358		B-2	NH <sub>2</sub>		
359		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
360		B-2	NH <sub>2</sub>	OH	
361		B-2	NH <sub>2</sub>	H	
362		B-2	H		
363		B-2	H		
364		B-2	H	NH <sub>2</sub>	
365		B-2	H	OH	
366		B-1-a			
367		B-1-b			
368		B-3	H	NH <sub>2</sub>	H
369		B-2	NH <sub>2</sub>		
370		B-2	NH <sub>2</sub>		
371		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
372		B-2	NH <sub>2</sub>	OH	
373		B-2	NH <sub>2</sub>	H	
374		B-2	H		
375		B-2	H		
376		B-2	H	NH <sub>2</sub>	

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
377		B-2	H	OH	
378		B-1-a			
379		B-1-b			
380		B-3	H	NH <sub>2</sub>	H
381		B-2	NH <sub>2</sub>		
382		B-2	NH <sub>2</sub>		
383		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
384		B-2	NH <sub>2</sub>	OH	
385		B-2	NH <sub>2</sub>	H	
386		B-2	H		
387		B-2	H		
388		B-2	H	NH <sub>2</sub>	
389		B-2	H	OH	
390		B-1-a			
391		B-1-b			
392		B-3	H	NH <sub>2</sub>	H
394		B-2	NH <sub>2</sub>		
395		B-2	NH <sub>2</sub>		
396		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
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398		B-2	NH <sub>2</sub>	H	
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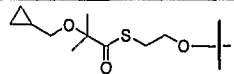
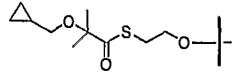
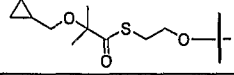
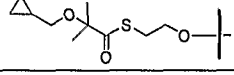
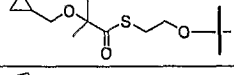
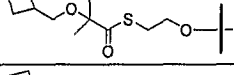
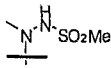
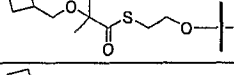
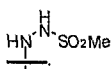
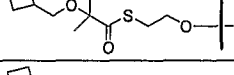
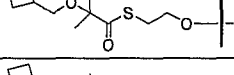
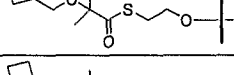
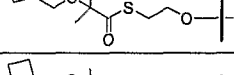
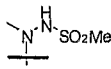
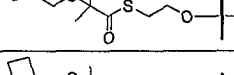
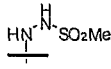
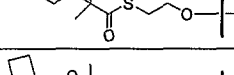
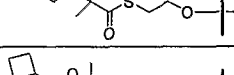
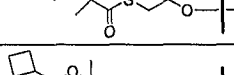
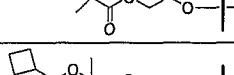
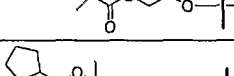
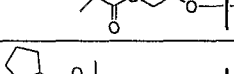
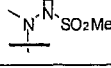
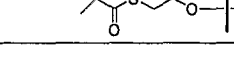
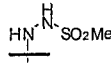
CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
400		B-2	H		
401		B-2	H	NH <sub>2</sub>	
402		B-2	H	OH	
403		B-1-a			
404		B-1-b			
405		B-3	H	NH <sub>2</sub>	H
406		B-2	NH <sub>2</sub>		
407		B-2	NH <sub>2</sub>		
408		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
409		B-2	NH <sub>2</sub>	OH	
410		B-2	NH <sub>2</sub>	H	
411		B-2	H		
412		B-2	H		
413		B-2	H	NH <sub>2</sub>	
414		B-2	H	OH	
415		B-1-a			
416		B-1-b			
417		B-3	H	NH <sub>2</sub>	H
418		B-2	NH <sub>2</sub>		
419		B-2	NH <sub>2</sub>		
420		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
421		B-2	NH <sub>2</sub>	OH	

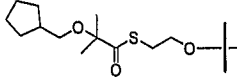
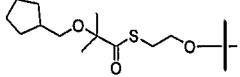
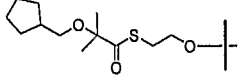
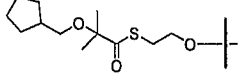
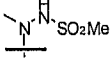
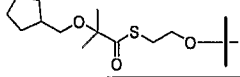
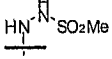
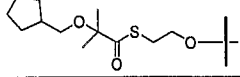
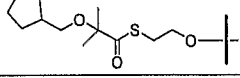
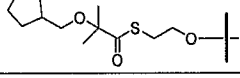
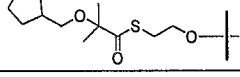
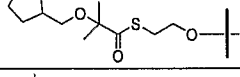
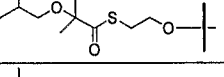
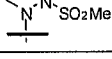
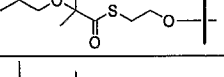
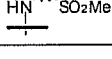
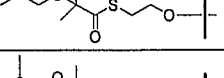
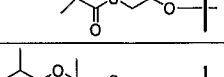
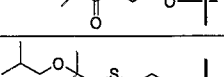
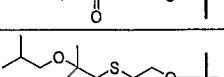
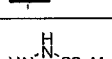
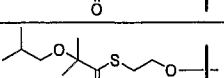
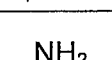
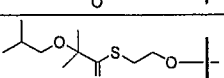

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
422		B-2	NH <sub>2</sub>	H	
423		B-2	H		
424		B-2	H		
425		B-2	H	NH <sub>2</sub>	
426		B-2	H	OH	
427		B-1-a			
428		B-1-b			
429		B-3	H	NH <sub>2</sub>	H
430		B-2	NH <sub>2</sub>		
431		B-2	NH <sub>2</sub>		
432		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
433		B-2	NH <sub>2</sub>	OH	
434		B-2	NH <sub>2</sub>	H	
435		B-2	H		
436		B-2	H		
437		B-2	H	NH <sub>2</sub>	
438		B-2	H	OH	
439		B-1-a			
440		B-1-b			
441		B-3	H	NH <sub>2</sub>	H
442		B-2	NH <sub>2</sub>		
443		B-2	NH <sub>2</sub>		

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
444		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
445		B-2	NH <sub>2</sub>	OH	
446		B-2	NH <sub>2</sub>	H	
447		B-2	H		
448		B-2	H		
449		B-2	H	NH <sub>2</sub>	
450		B-2	H	OH	
451		B-1-a			
452		B-1-b			
453		B-3	H	NH <sub>2</sub>	H
454		B-2	NH <sub>2</sub>		
455		B-2	NH <sub>2</sub>		
456		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
467		B-2	NH <sub>2</sub>	OH	
458		B-2	NH <sub>2</sub>	H	
459		B-2	H		
460		B-2	H		
461		B-2	H	NH <sub>2</sub>	
462		B-2	H	OH	
463		B-1-a			
464		B-1-b			
465		B-3	H	NH <sub>2</sub>	H

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
466		B-2	NH <sub>2</sub>		
467		B-2	NH <sub>2</sub>		
468		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
469		B-2	NH <sub>2</sub>	OH	
470		B-2	NH <sub>2</sub>	H	
471		B-2	H		
472		B-2	H		
473		B-2	H	NH <sub>2</sub>	
474		B-2	H	OH	
475		B-1-a			
476		B-1-b			
477		B-3	H	NH <sub>2</sub>	H
478		B-2	NH <sub>2</sub>		
479		B-2	NH <sub>2</sub>		
480		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
481		B-2	NH <sub>2</sub>	OH	
482		B-2	NH <sub>2</sub>	H	
483		B-2	H		
484		B-2	H		
485		B-2	H	NH <sub>2</sub>	
486		B-2	H	OH	
487		B-1-a			

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
488		B-1-b			
489		B-3	H	NH <sub>2</sub>	H
490		B-2	NH <sub>2</sub>		
491		B-2	NH <sub>2</sub>		
492		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
493		B-2	NH <sub>2</sub>	OH	
494		B-2	NH <sub>2</sub>	H	
495		B-2	H		
496		B-2	H		
497		B-2	H	NH <sub>2</sub>	
498		B-2	H	OH	
499		B-1-a			
500		B-1-b			
501		B-3	H	NH <sub>2</sub>	H
502		B-2	NH <sub>2</sub>		
503		B-2	NH <sub>2</sub>		
504		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
505		B-2	NH <sub>2</sub>	OH	
506		B-2	NH <sub>2</sub>	H	
507		B-2	H		
508		B-2	H		

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
509		B-2	H	NH <sub>2</sub>	
510		B-2	H	OH	
511		B-1-a			
512		B-1-b			
513		B-3	H	NH <sub>2</sub>	H
514		B-2	NH <sub>2</sub>		
515		B-2	NH <sub>2</sub>		
516		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
517		B-2	NH <sub>2</sub>	OH	
518		B-2	NH <sub>2</sub>	H	
519		B-2	H		
520		B-2	H		
521		B-2	H	NH <sub>2</sub>	
522		B-2	H	OH	
523		B-1-a			
524		B-1-b			
525		B-3	H	NH <sub>2</sub>	H
526		B-2	NH <sub>2</sub>		
527		B-2	NH <sub>2</sub>		

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
528		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
529		B-2	NH <sub>2</sub>	OH	
530		B-2	NH <sub>2</sub>	H	
531		B-2	H		
532		B-2	H		
533		B-2	H	NH <sub>2</sub>	
534		B-2	H	OH	
535		B-1-a			
536		B-1-b			
537		B-3	H	NH <sub>2</sub>	H
538		B-2	NH <sub>2</sub>		
539		B-2	NH <sub>2</sub>		
540		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
541		B-2	NH <sub>2</sub>	OH	
542		B-2	NH <sub>2</sub>	H	
543		B-2	H		
544		B-2	H		
545		B-2	H	NH <sub>2</sub>	
546		B-2	H	OH	

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
547		B-1-a			
548		B-1-b			
549		B-3	H	NH <sub>2</sub>	H
550		B-2	NH <sub>2</sub>		
551		B-2	NH <sub>2</sub>		
552		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
553		B-2	NH <sub>2</sub>	OH	
554		B-2	NH <sub>2</sub>	H	
555		B-2	H		
556		B-2	H		
557		B-2	H	NH <sub>2</sub>	
558		B-2	H	OH	
559		B-1-a			
560		B-1-b			
561		B-3	H	NH <sub>2</sub>	H
562		B-2	NH <sub>2</sub>		
563		B-2	NH <sub>2</sub>		
564		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
565		B-2	NH <sub>2</sub>	OH	

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
566		B-2	NH <sub>2</sub>	H	
567		B-2	H		
568		B-2	H		
569		B-2	H	NH <sub>2</sub>	
570		B-2	H	OH	
571		B-1-a			
572		B-1-b			
573		B-3	H	NH <sub>2</sub>	H
574		B-2	NH <sub>2</sub>		
575		B-2	NH <sub>2</sub>		
576		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
577		B-2	NH <sub>2</sub>	OH	
578		B-2	NH <sub>2</sub>	H	
579		B-2	H		
580		B-2	H		
581		B-2	H	NH <sub>2</sub>	
582		B-2	H	OH	
583		B-1-a			
584		B-1-b			
585		B-3	H	NH <sub>2</sub>	H

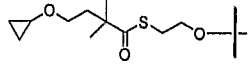
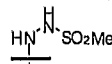
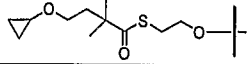
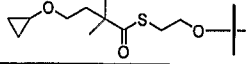
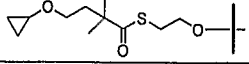
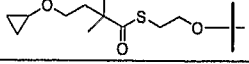
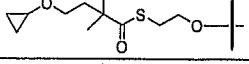
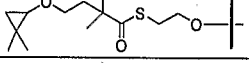
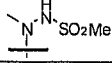
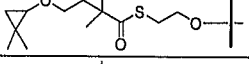
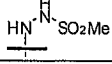
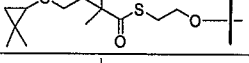
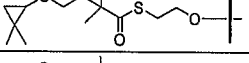
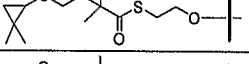
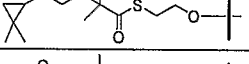
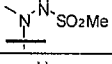
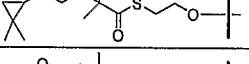
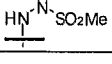
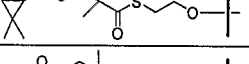
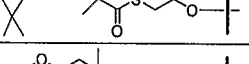
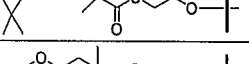
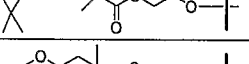
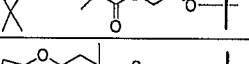
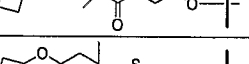
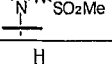
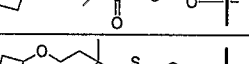
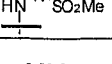
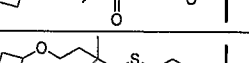
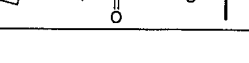
CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
586		B-2	NH <sub>2</sub>		
587		B-2	NH <sub>2</sub>		
588		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
589		B-2	NH <sub>2</sub>	OH	
590		B-2	NH <sub>2</sub>	H	
591		B-2	H		
592		B-2	H		
593		B-2	H	NH <sub>2</sub>	
594		B-2	H	OH	
595		B-1-a			
596		B-1-b			
597		B-3	H	NH <sub>2</sub>	H
598		B-2	NH <sub>2</sub>		
599		B-2	NH <sub>2</sub>		
600		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
601		B-2	NH <sub>2</sub>	OH	
602		B-2	NH <sub>2</sub>	H	
603		B-2	H		
604		B-2	H		

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
605		B-2	H	NH <sub>2</sub>	
606		B-2	H	OH	
607		B-1-a			
608		B-1-b			
609		B-3	H	NH <sub>2</sub>	H
610		B-2	NH <sub>2</sub>		
611		B-2	NH <sub>2</sub>		
612		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
613		B-2	NH <sub>2</sub>	OH	
614		B-2	NH <sub>2</sub>	H	
615		B-2	H		
616		B-2	H		
617		B-2	H	NH <sub>2</sub>	
618		B-2	H	OH	
619		B-1-a			
620		B-1-b			
621		B-3	H	NH <sub>2</sub>	H

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
622		B-2	NH <sub>2</sub>		
623		B-2	NH <sub>2</sub>		
624		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
625		B-2	NH <sub>2</sub>	OH	
626		B-2	NH <sub>2</sub>	H	
627		B-2	H		
628		B-2	H		
629		B-2	H	NH <sub>2</sub>	
630		B-2	H	OH	
631		B-1-a			
632		B-1-b			
633		B-3	H	NH <sub>2</sub>	H
634		B-2	NH <sub>2</sub>		
635		B-2	NH <sub>2</sub>		
636		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
637		B-2	NH <sub>2</sub>	OH	
638		B-2	NH <sub>2</sub>	H	
639		B-2	H		
640		B-2	H		
641		B-2	H	NH <sub>2</sub>	
642		B-2	H	OH	
643		B-1-a			

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
644		B-1-b			
645		B-3	H	NH <sub>2</sub>	H
646		B-2	NH <sub>2</sub>		
647		B-2	NH <sub>2</sub>		
648		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
649		B-2	NH <sub>2</sub>	OH	
650		B-2	NH <sub>2</sub>	H	
651		B-2	H		
652		B-2	H		
653		B-2	H	NH <sub>2</sub>	
654		B-2	H	OH	
655		B-1-a			
656		B-1-b			
667		B-3	H	NH <sub>2</sub>	H
658		B-2	NH <sub>2</sub>		
659		B-2	NH <sub>2</sub>		
660		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
661		B-2	NH <sub>2</sub>	OH	
662		B-2	NH <sub>2</sub>	H	
663		B-2	H		
664		B-2	H		
665		B-2	H	NH <sub>2</sub>	

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
666		B-2	H	OH	
667		B-1-a			
668		B-1-b			
669		B-3	H	NH <sub>2</sub>	H
670		B-2	NH <sub>2</sub>		
671		B-2	NH <sub>2</sub>		
672		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
673		B-2	NH <sub>2</sub>	OH	
674		B-2	NH <sub>2</sub>	H	
675		B-2	H		
676		B-2	H		
677		B-2	H	NH <sub>2</sub>	
678		B-2	H	OH	
679		B-1-a			
680		B-1-b			
681		B-3	H	NH <sub>2</sub>	H
682		B-2	NH <sub>2</sub>		
683		B-2	NH <sub>2</sub>		
684		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
685		B-2	NH <sub>2</sub>	OH	
686		B-2	NH <sub>2</sub>	H	
687		B-2	H		

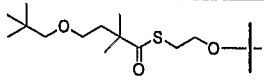
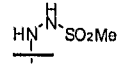
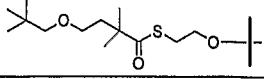
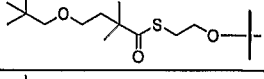
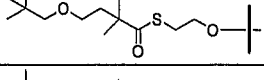
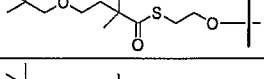
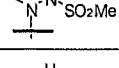
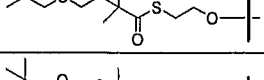
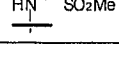
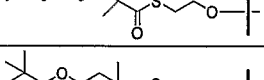
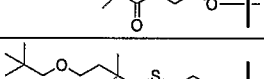
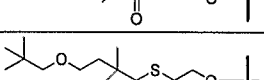
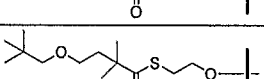
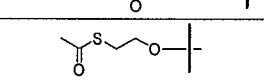
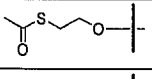
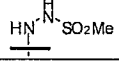
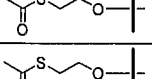
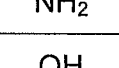
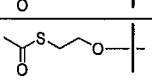
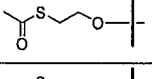
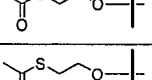
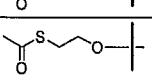
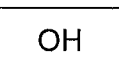
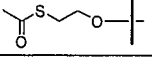
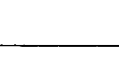



CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
688		B-2	H		
689		B-2	H	NH <sub>2</sub>	
690		B-2	H	OH	
691		B-1-a			
692		B-1-b			
693		B-3	H	NH <sub>2</sub>	H
694		B-2	NH <sub>2</sub>		
695		B-2	NH <sub>2</sub>		
696		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
697		B-2	NH <sub>2</sub>	OH	
698		B-2	NH <sub>2</sub>	H	
699		B-2	H		
700		B-2	H		
701		B-2	H	NH <sub>2</sub>	
702		B-2	H	OH	
703		B-1-a			
704		B-1-b			
705		B-3	H	NH <sub>2</sub>	H
706		B-2	NH <sub>2</sub>		
707		B-2	NH <sub>2</sub>		
708		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
709		B-2	NH <sub>2</sub>	OH	

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
710		B-2	NH <sub>2</sub>	H	
711		B-2	H		
712		B-2	H		
713		B-2	H	NH <sub>2</sub>	
714		B-2	H	OH	
715		B-1-a			
716		B-1-b			
717		B-3	H	NH <sub>2</sub>	H
718		B-2	NH <sub>2</sub>		
719		B-2	NH <sub>2</sub>		
720		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
721		B-2	NH <sub>2</sub>	OH	
722		B-2	NH <sub>2</sub>	H	
723		B-2	H		
724		B-2	H		
725		B-2	H	NH <sub>2</sub>	
726		B-2	H	OH	
727		B-1-a			
728		B-1-b			
729		B-3	H	NH <sub>2</sub>	H
730		B-2	NH <sub>2</sub>		
731		B-2	NH <sub>2</sub>		

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
732		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
733		B-2	NH <sub>2</sub>	OH	
734		B-2	NH <sub>2</sub>	H	
735		B-2	H		
736		B-2	H		
737		B-2	H	NH <sub>2</sub>	
738		B-2	H	OH	
739		B-1-a			
740		B-1-b			
741		B-3	H	NH <sub>2</sub>	H
742		B-2	NH <sub>2</sub>		
743		B-2	NH <sub>2</sub>		
744		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
745		B-2	NH <sub>2</sub>	OH	
746		B-2	NH <sub>2</sub>	H	
747		B-2	H		
748		B-2	H		
749		B-2	H	NH <sub>2</sub>	
750		B-2	H	OH	
751		B-1-a			
752		B-1-b			

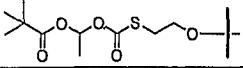
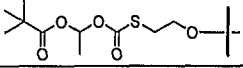
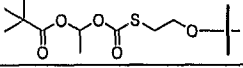
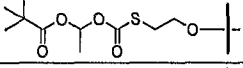
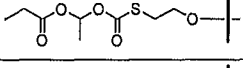
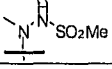
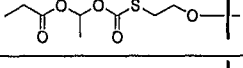
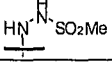
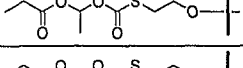
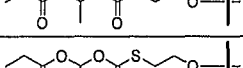
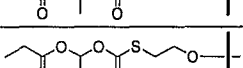
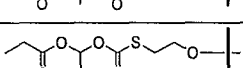
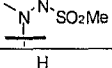
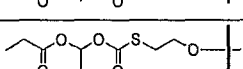
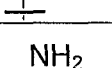
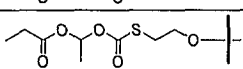
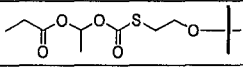
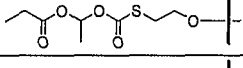
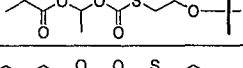
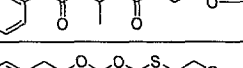
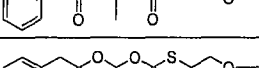
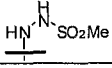
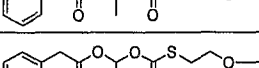
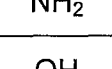
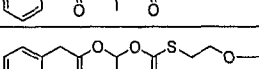
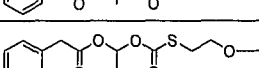
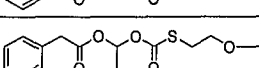

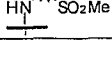


CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
753		B-3	H	NH <sub>2</sub>	H
754		B-2	NH <sub>2</sub>		
755		B-2	NH <sub>2</sub>		
756		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
767		B-2	NH <sub>2</sub>	OH	
758		B-2	NH <sub>2</sub>	H	
759		B-2	H		
760		B-2	H		
761		B-2	H	NH <sub>2</sub>	
762		B-2	H	OH	
763		B-1-a			
764		B-1-b			
765		B-3	H	NH <sub>2</sub>	H
766		B-2	NH <sub>2</sub>		
767		B-2	NH <sub>2</sub>		
768		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
769		B-2	NH <sub>2</sub>	OH	
770		B-2	NH <sub>2</sub>	H	
771		B-2	H		

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
772		B-2	H		
773		B-2	H	NH <sub>2</sub>	
774		B-2	H	OH	
775		B-1-a			
776		B-1-b			
777		B-3	H	NH <sub>2</sub>	H
778		B-2	NH <sub>2</sub>		
779		B-2	NH <sub>2</sub>		
780		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
781		B-2	NH <sub>2</sub>	OH	
782		B-2	NH <sub>2</sub>	H	
783		B-2	H		
784		B-2	H		
785		B-2	H	NH <sub>2</sub>	
786		B-2	H	OH	
787		B-1-a			
788		B-1-b			
789		B-3	H	NH <sub>2</sub>	H
790		B-2	NH <sub>2</sub>		

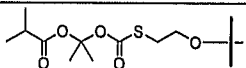
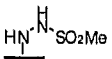
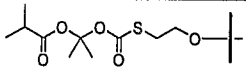
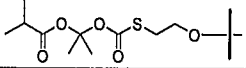
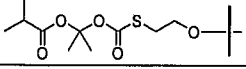
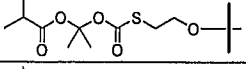
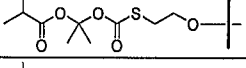
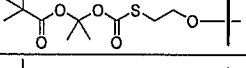
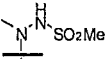
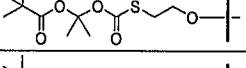
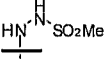
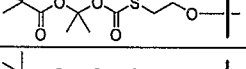
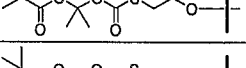
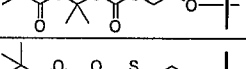
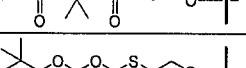
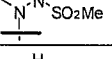
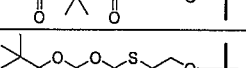
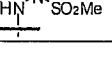
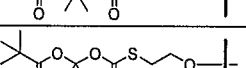
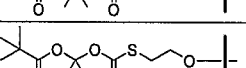
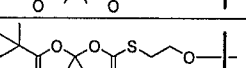
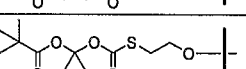
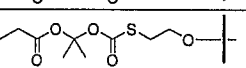
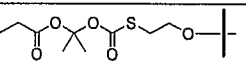
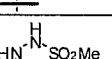
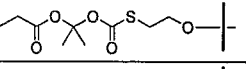
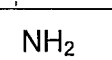
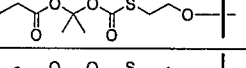
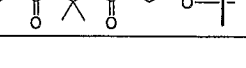

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
791		B-2	NH <sub>2</sub>		
792		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
793		B-2	NH <sub>2</sub>	OH	
794		B-2	NH <sub>2</sub>	H	
795		B-2	H		
796		B-2	H		
797		B-2	H	NH <sub>2</sub>	
798		B-2	H	OH	
799		B-1-a			
800		B-1-b			
801		B-3	H	NH <sub>2</sub>	H
802		B-2	NH <sub>2</sub>		
803		B-2	NH <sub>2</sub>		
804		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
805		B-2	NH <sub>2</sub>	OH	
806		B-2	NH <sub>2</sub>	H	
807		B-2	H		
808		B-2	H		
809		B-2	H	NH <sub>2</sub>	
810		B-2	H	OH	
811		B-1-a			

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
812		B-1-b			
813		B-3	H	NH <sub>2</sub>	H
814		B-2	NH <sub>2</sub>		
815		B-2	NH <sub>2</sub>		
816		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
817		B-2	NH <sub>2</sub>	OH	
818		B-2	NH <sub>2</sub>	H	
819		B-2	H		
820		B-2	H		
821		B-2	H	NH <sub>2</sub>	
822		B-2	H	OH	
823		B-1-a			
824		B-1-b			
825		B-3	H	NH <sub>2</sub>	H
826		B-2	NH <sub>2</sub>		
827		B-2	NH <sub>2</sub>		
828		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
829		B-2	NH <sub>2</sub>	OH	
830		B-2	NH <sub>2</sub>	H	
831		B-2	H		
832		B-2	H		
833		B-2	H	NH <sub>2</sub>	
834		B-2	H	OH	

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
835		B-1-a			
836		B-1-b			
837		B-3	H	NH <sub>2</sub>	H
838		B-2	NH <sub>2</sub>		
839		B-2	NH <sub>2</sub>		
840		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
841		B-2	NH <sub>2</sub>	OH	
842		B-2	NH <sub>2</sub>	H	
843		B-2	H		
844		B-2	H		
845		B-2	H	NH <sub>2</sub>	
846		B-2	H	OH	
847		B-1-a			
848		B-1-b			
849		B-3	H	NH <sub>2</sub>	H
850		B-2	NH <sub>2</sub>		
851		B-2	NH <sub>2</sub>		
852		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
853		B-2	NH <sub>2</sub>	OH	
854		B-2	NH <sub>2</sub>	H	
855		B-2	H		
856		B-2	H		
867		B-2	H	NH <sub>2</sub>	

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
858		B-2	H	OH	
859		B-1-a			
860		B-1-b			
861		B-3	H	NH <sub>2</sub>	H
862		B-2	NH <sub>2</sub>		
863		B-2	NH <sub>2</sub>		
864		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
865		B-2	NH <sub>2</sub>	OH	
866		B-2	NH <sub>2</sub>	H	
867		B-2	H		
868		B-2	H		
869		B-2	H	NH <sub>2</sub>	
870		B-2	H	OH	
871		B-1-a			
872		B-1-b			
873		B-3	H	NH <sub>2</sub>	H
874		B-2	NH <sub>2</sub>		
875		B-2	NH <sub>2</sub>		
876		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
877		B-2	NH <sub>2</sub>	OH	
878		B-2	NH <sub>2</sub>	H	
879		B-2	H		
880		B-2	H		

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
881		B-2	H	NH <sub>2</sub>	
882		B-2	H	OH	
883		B-1-a			
884		B-1-b			
885		B-3	H	NH <sub>2</sub>	H
886		B-2	NH <sub>2</sub>		
887		B-2	NH <sub>2</sub>		
888		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
889		B-2	NH <sub>2</sub>	OH	
890		B-2	NH <sub>2</sub>	H	
891		B-2	H		
892		B-2	H		
893		B-2	H	NH <sub>2</sub>	
894		B-2	H	OH	
895		B-1-a			
896		B-1-b			
897		B-3	H	NH <sub>2</sub>	H
898		B-2	NH <sub>2</sub>		
899		B-2	NH <sub>2</sub>		
900		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
901		B-2	NH <sub>2</sub>	OH	
902		B-2	NH <sub>2</sub>	H	
903		B-2	H		

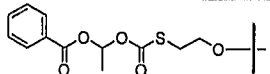
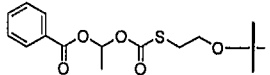
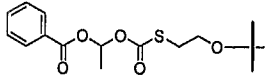
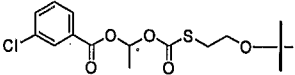
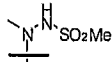
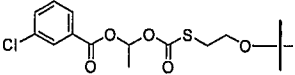
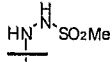
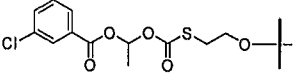
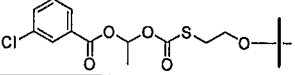
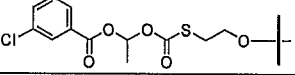
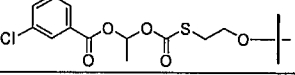
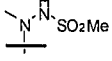
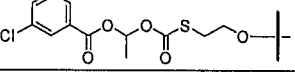
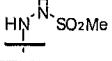
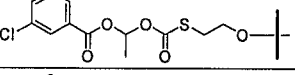
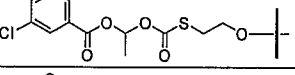
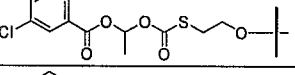
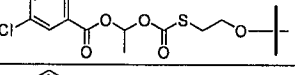
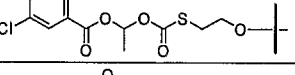
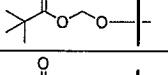
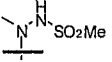
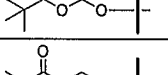
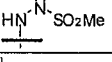
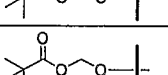
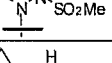
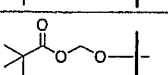
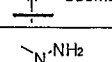


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905		B-2	H	NH <sub>2</sub>	
906		B-2	H	OH	
907		B-1-a			
908		B-1-b			
909		B-3	H	NH <sub>2</sub>	H
910		B-2	NH <sub>2</sub>		
911		B-2	NH <sub>2</sub>		
912		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
913		B-2	NH <sub>2</sub>	OH	
914		B-2	NH <sub>2</sub>	H	
915		B-2	H		
916		B-2	H		
917		B-2	H	NH <sub>2</sub>	
918		B-2	H	OH	
919		B-1-a			
920		B-1-b			
921		B-3	H	NH <sub>2</sub>	H
922		B-2	NH <sub>2</sub>		
923		B-2	NH <sub>2</sub>		
924		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
925		B-2	NH <sub>2</sub>	OH	
926		B-2	NH <sub>2</sub>	H	

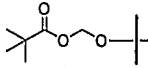

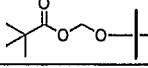

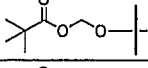
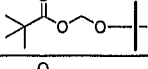
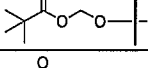
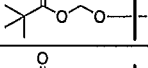
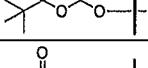
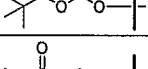
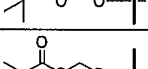
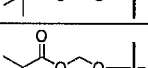

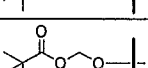

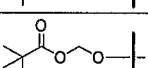

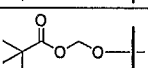

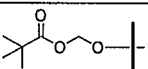

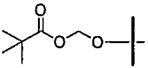

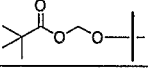

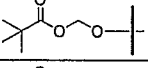
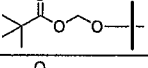
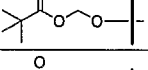
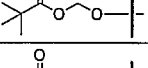
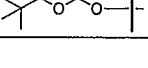

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
927		B-2	H		
928		B-2	H		
929		B-2	H	NH <sub>2</sub>	
930		B-2	H	OH	
931		B-1-a			
932		B-1-b			
933		B-3	H	NH <sub>2</sub>	H
934		B-2	NH <sub>2</sub>		
935		B-2	NH <sub>2</sub>		
936		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
937		B-2	NH <sub>2</sub>	OH	
938		B-2	NH <sub>2</sub>	H	
939		B-2	H		
940		B-2	H		
941		B-2	H	NH <sub>2</sub>	
942		B-2	H	OH	
943		B-1-a			
944		B-1-b			
945		B-3	H	NH <sub>2</sub>	H
946		B-2	NH <sub>2</sub>		
947		B-2	NH <sub>2</sub>		
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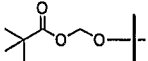
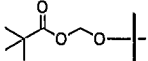
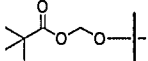
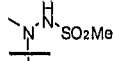
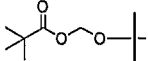
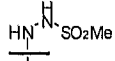
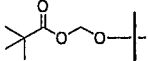
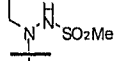
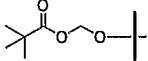
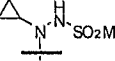
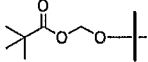
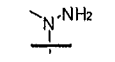
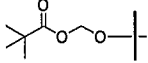
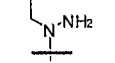
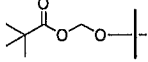
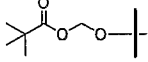
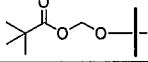
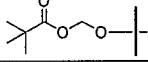
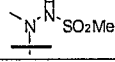
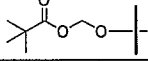
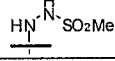
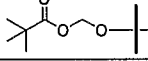
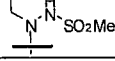
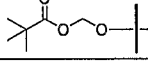
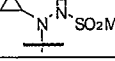
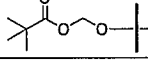
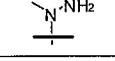
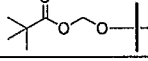
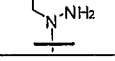
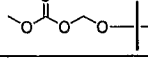
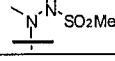
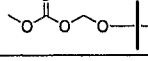
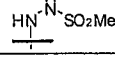
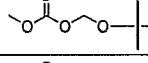
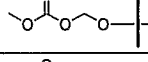
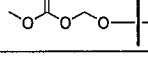
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951		B-2	H		
952		B-2	H		
953		B-2	H	NH <sub>2</sub>	
954		B-2	H	OH	
955		B-1-a			
956		B-1-b			
967		B-3	H	NH <sub>2</sub>	H
958		B-2	NH <sub>2</sub>		
959		B-2	NH <sub>2</sub>		
960		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
961		B-2	NH <sub>2</sub>	OH	
962		B-2	NH <sub>2</sub>	H	
963		B-2	H		
964		B-2	H		
965		B-2	H	NH <sub>2</sub>	
966		B-2	H	OH	
967		B-1-a			
968		B-1-b			
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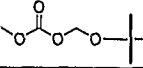
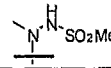
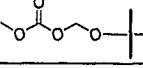
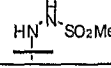
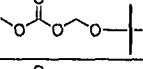
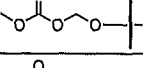
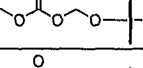
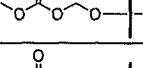
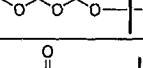
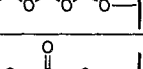
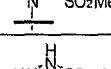
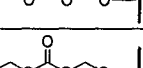
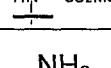
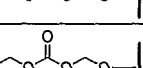
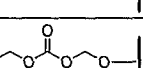
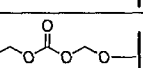
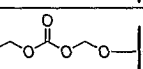
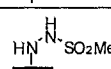
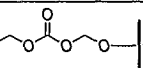
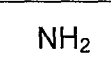
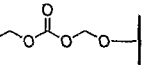
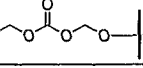
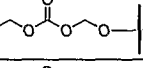
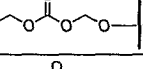
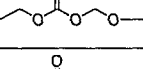
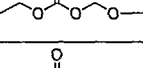
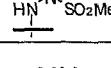
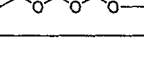
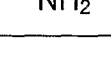

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
972		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
973		B-2	NH <sub>2</sub>	OH	
974		B-2	NH <sub>2</sub>	H	
975		B-2	H		
976		B-2	H		
977		B-2	H	NH <sub>2</sub>	
978		B-2	H	OH	
979		B-1-a			
980		B-1-b			
981		B-3	H	NH <sub>2</sub>	H
982		B-2	NH <sub>2</sub>		
983		B-2	NH <sub>2</sub>		
984		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
985		B-2	NH <sub>2</sub>	OH	
986		B-2	NH <sub>2</sub>	H	
987		B-2	H		
988		B-2	H		
989		B-2	H	NH <sub>2</sub>	
990		B-2	H	OH	
991		B-1-a			
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993		B-3	H	NH <sub>2</sub>	H

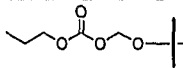
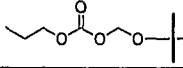
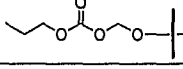
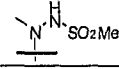
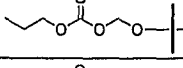
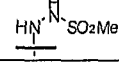
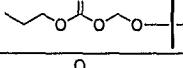
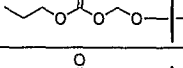
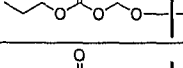
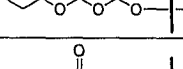
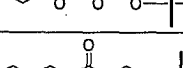
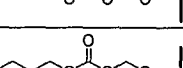
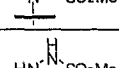
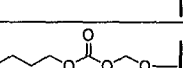
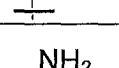
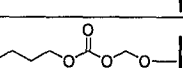
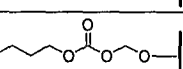
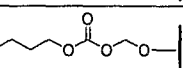
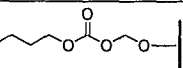
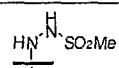
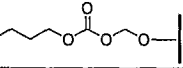
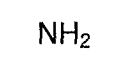
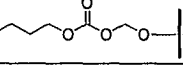
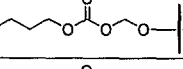
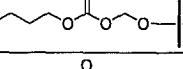
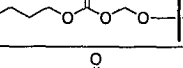
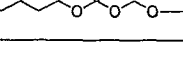


CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
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995		B-2	NH <sub>2</sub>		
996		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
997		B-2	NH <sub>2</sub>	OH	
998		B-2	NH <sub>2</sub>	H	
999		B-2	H		
1000		B-2	H		
1001		B-2	H	NH <sub>2</sub>	
1002		B-2	H	OH	
1003		B-1-a			
1004		B-1-b			
1005		B-3	H	NH <sub>2</sub>	H
1006		B-2	NH <sub>2</sub>		
1007		B-2	NH <sub>2</sub>		
1008		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1009		B-2	NH <sub>2</sub>	OH	
1010		B-2	NH <sub>2</sub>	H	
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1014		B-2	H	OH	

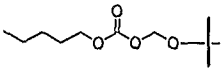
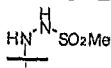
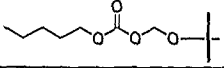
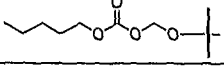
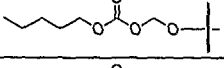
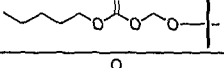
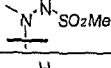
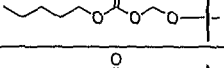
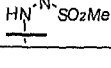
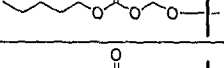
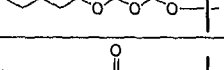
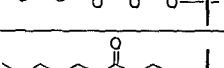
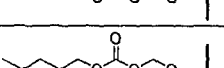
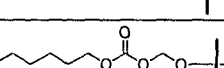
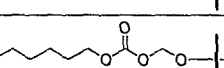
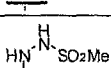
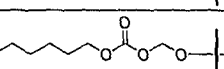
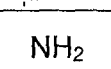
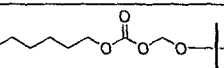
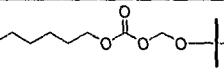
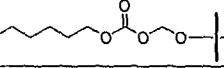
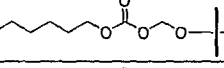
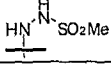
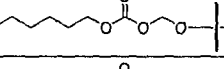
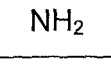
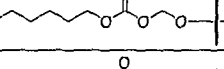
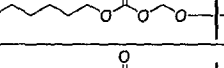
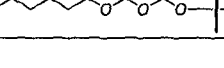

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1015		B-1-a			
1016		B-1-b			
1017		B-3	H	NH <sub>2</sub>	H
1018		B-2	NH <sub>2</sub>		
1019		B-2	NH <sub>2</sub>		
1020		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1021		B-2	NH <sub>2</sub>	OH	
1022		B-2	NH <sub>2</sub>	H	
1023		B-2	H		
1024		B-2	H		
1025		B-2	H	NH <sub>2</sub>	
1026		B-2	H	OH	
1027		B-1-a			
1028		B-1-b			
1029		B-3	H	NH <sub>2</sub>	H
1030		B-2	NH <sub>2</sub>		
1031		B-2	NH <sub>2</sub>		
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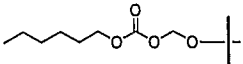
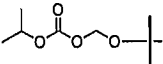
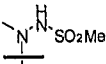
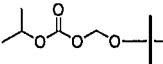
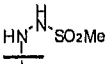
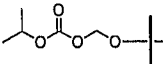
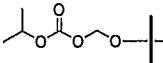
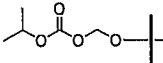
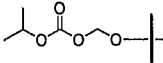
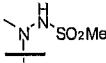
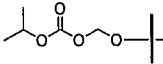
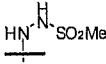
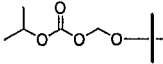
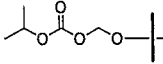
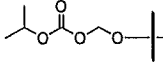
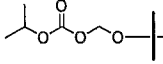
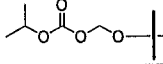
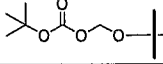
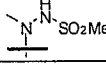
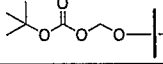
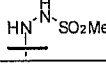
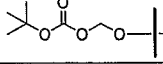
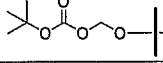
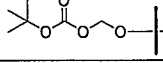
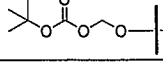
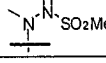
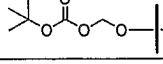
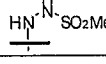
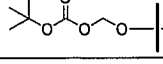
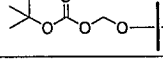
CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
1035		B-2	NH <sub>2</sub>		
1036		B-2	NH <sub>2</sub>		
1037		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1038		B-2	NH <sub>2</sub>	OH	
1039		B-2	NH <sub>2</sub>	NHMe	
1040		B-2	NH <sub>2</sub>	OMe	
1041		B-2	NH <sub>2</sub>	OEt	
1042		B-2	NH <sub>2</sub>	SMe	
1043		B-2	NH <sub>2</sub>	H	
1044		B-2	H		
1045		B-2	H		
1046		B-2	H		
1047		B-2	H		
1048		B-2	H		
1049		B-2	H		
1050		B-2	H		
1051		B-2	H	NH <sub>2</sub>	
1052		B-2	H	OH	
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1056		B-2	H	SMe	

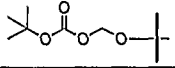
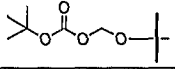
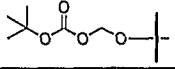
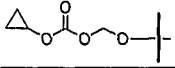
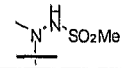
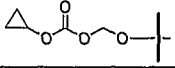
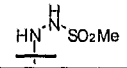
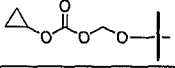
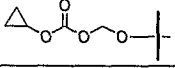
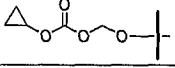
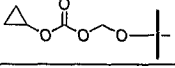
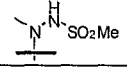
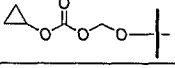
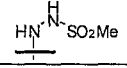
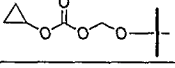
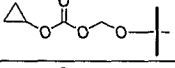
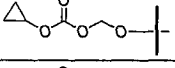
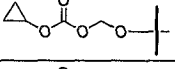
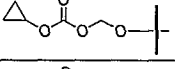
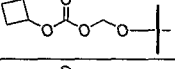
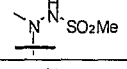
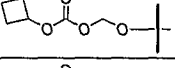
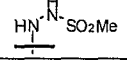
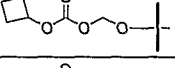
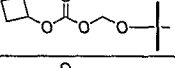
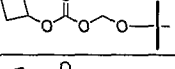
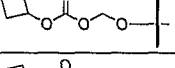
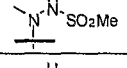
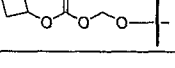
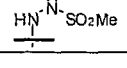
CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
1067		B-1-a			
1058		B-1-b			
1059		B-3	NH <sub>2</sub>		H
1060		B-3	NH <sub>2</sub>		H
1061		B-3	NH <sub>2</sub>		H
1062		B-3	NH <sub>2</sub>		H
1063		B-3	NH <sub>2</sub>		H
1064		B-3	NH <sub>2</sub>		H
1065		B-3	H	NH <sub>2</sub>	CN
1066		B-3	H	NH <sub>2</sub>	H
1067		B-3	H	NH <sub>2</sub>	F
1068		B-3	H		H
1069		B-3	H		H
1070		B-3	H		H
1071		B-3	H		H
1072		B-3	H		H
1073		B-3	H		H
1074		B-2	NH <sub>2</sub>		
1075		B-2	NH <sub>2</sub>		
1076		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1077		B-2	NH <sub>2</sub>	OH	
1078		B-2	NH <sub>2</sub>	H	

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
1079		B-2	H		
1080		B-2	H		
1081		B-2	H	NH <sub>2</sub>	
1082		B-2	H	OH	
1083		B-1-a			
1084		B-1-b			
1085		B-3	H	NH <sub>2</sub>	H
1086		B-2	NH <sub>2</sub>		
1087		B-2	NH <sub>2</sub>		
1088		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1089		B-2	NH <sub>2</sub>	OH	
1090		B-2	NH <sub>2</sub>	H	
1091		B-2	H		
1092		B-2	H		
1093		B-2	H	NH <sub>2</sub>	
1094		B-2	H	OH	
1095		B-1-a			
1096		B-1-b			
1097		B-3	H	NH <sub>2</sub>	H
1098		B-2	NH <sub>2</sub>		
1099		B-2	NH <sub>2</sub>		
1100		B-2	NH <sub>2</sub>	NH <sub>2</sub>	

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
1101		B-2	NH <sub>2</sub>	OH	
1102		B-2	NH <sub>2</sub>	H	
1103		B-2	H		
1104		B-2	H		
1105		B-2	H	NH <sub>2</sub>	
1106		B-2	H	OH	
1107		B-1-a			
1108		B-1-b			
1109		B-3	H	NH <sub>2</sub>	H
1110		B-2	NH <sub>2</sub>		
1111		B-2	NH <sub>2</sub>		
1112		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1113		B-2	NH <sub>2</sub>	OH	
1114		B-2	NH <sub>2</sub>	H	
1115		B-2	H		
1116		B-2	H		
1117		B-2	H	NH <sub>2</sub>	
1118		B-2	H	OH	
1119		B-1-a			
1120		B-1-b			
1121		B-3	H	NH <sub>2</sub>	H
1122		B-2	NH <sub>2</sub>		

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
1123		B-2	NH <sub>2</sub>		
1124		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1125		B-2	NH <sub>2</sub>	OH	
1126		B-2	NH <sub>2</sub>	H	
1127		B-2	H		
1128		B-2	H		
1129		B-2	H	NH <sub>2</sub>	
1130		B-2	H	OH	
1131		B-1-a			
1132		B-1-b			
1133		B-3	H	NH <sub>2</sub>	H
1134		B-2	NH <sub>2</sub>		
1135		B-2	NH <sub>2</sub>		
1136		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1137		B-2	NH <sub>2</sub>	OH	
1138		B-2	NH <sub>2</sub>	H	
1139		B-2	H		
1140		B-2	H		
1141		B-2	H	NH <sub>2</sub>	
1142		B-2	H	OH	
1143		B-1-a			
1144		B-1-b			

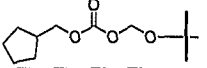
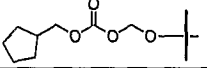
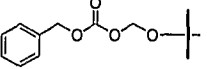
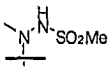
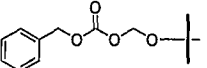
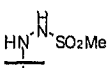
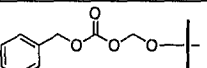
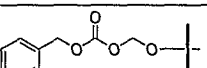
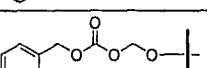
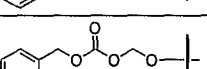
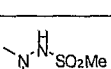
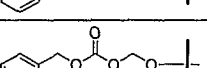
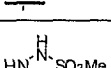
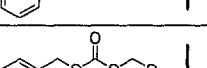
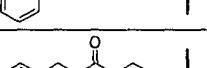
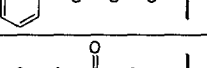
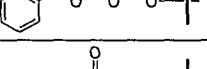
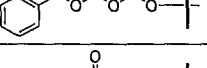
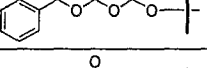
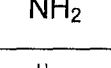
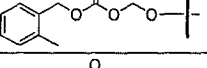
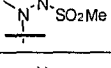
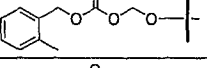
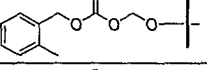
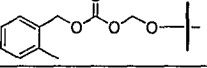
CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
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1146		B-2	NH <sub>2</sub>		
1147		B-2	NH <sub>2</sub>		
1148		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1149		B-2	NH <sub>2</sub>	OH	
1150		B-2	NH <sub>2</sub>	H	
1151		B-2	H		
1152		B-2	H		
1153		B-2	H	NH <sub>2</sub>	
1154		B-2	H	OH	
1155		B-1-a			
1156		B-1-b			
1167		B-3	H	NH <sub>2</sub>	H
1168		B-2	NH <sub>2</sub>		
1169		B-2	NH <sub>2</sub>		
1160		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1161		B-2	NH <sub>2</sub>	OH	
1162		B-2	NH <sub>2</sub>	H	
1163		B-2	H		
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1166		B-2	H	OH	

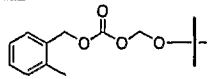
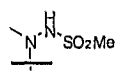
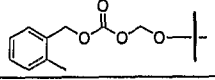
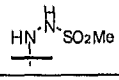
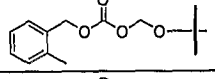
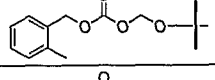
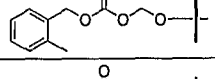
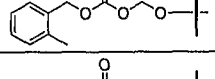
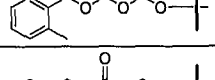
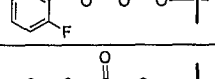
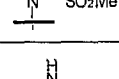
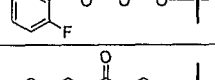
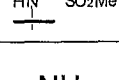
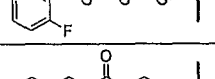
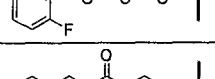
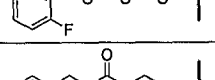
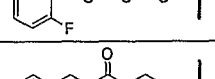
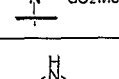
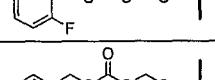
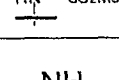
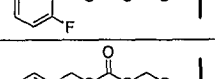
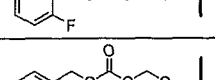
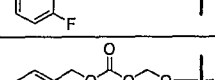
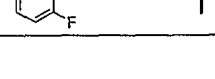
CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
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1168		B-1-b			
1169		B-3	H	NH <sub>2</sub>	H
1170		B-2	NH <sub>2</sub>		
1171		B-2	NH <sub>2</sub>		
1172		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1173		B-2	NH <sub>2</sub>	OH	
1174		B-2	NH <sub>2</sub>	H	
1175		B-2	H		
1176		B-2	H		
1177		B-2	H	NH <sub>2</sub>	
1178		B-2	H	OH	
1179		B-1-a			
1180		B-1-b			
1181		B-3	H	NH <sub>2</sub>	H
1182		B-2	NH <sub>2</sub>		
1183		B-2	NH <sub>2</sub>		
1184		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1185		B-2	NH <sub>2</sub>	OH	
1186		B-2	NH <sub>2</sub>	H	
1187		B-2	H		
1188		B-2	H		

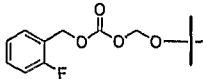
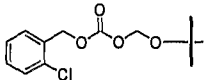
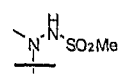
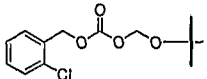
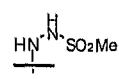
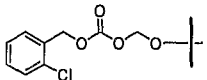
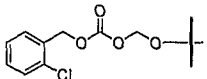
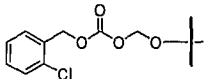
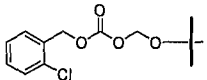
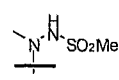
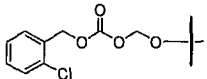
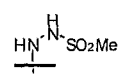
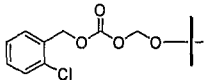
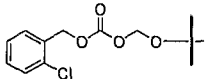
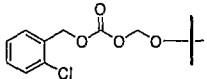
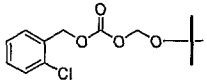
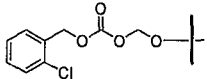
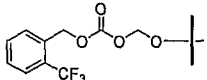
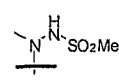
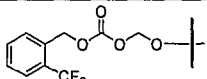
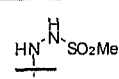
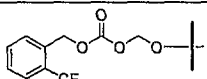
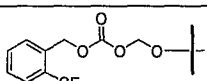
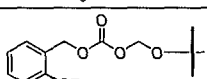
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1190		B-2	H	OH	
1191		B-1-a			
1192		B-1-b			
1193		B-3	H	NH <sub>2</sub>	H
1194		B-2	NH <sub>2</sub>		
1195		B-2	NH <sub>2</sub>		
1196		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1197		B-2	NH <sub>2</sub>	OH	
1198		B-2	NH <sub>2</sub>	H	
1199		B-2	H		
1200		B-2	H		
1201		B-2	H	NH <sub>2</sub>	
1202		B-2	H	OH	
1203		B-1-a			
1204		B-1-b			
1205		B-3	H	NH <sub>2</sub>	H
1206		B-2	NH <sub>2</sub>		
1207		B-2	NH <sub>2</sub>		
1208		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1209		B-2	NH <sub>2</sub>	OH	

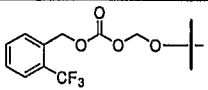
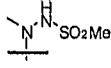
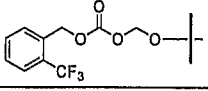
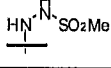
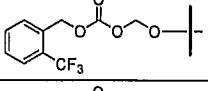
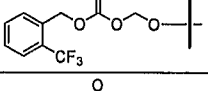
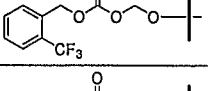
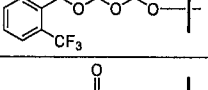
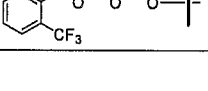
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1211		B-2	H		
1212		B-2	H		
1213		B-2	H	NH <sub>2</sub>	
1214		B-2	H	OH	
1215		B-1-a			
1216		B-1-b			
1217		B-3	H	NH <sub>2</sub>	H
1218		B-2	NH <sub>2</sub>		
1219		B-2	NH <sub>2</sub>		
1220		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1221		B-2	NH <sub>2</sub>	OH	
1222		B-2	NH <sub>2</sub>	H	
1223		B-2	H		
1224		B-2	H		
1225		B-2	H	NH <sub>2</sub>	
1226		B-2	H	OH	
1227		B-1-a			
1228		B-1-b			
1229		B-3	H	NH <sub>2</sub>	H
1230		B-2	NH <sub>2</sub>		

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
1231		B-2	NH <sub>2</sub>		
1232		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1233		B-2	NH <sub>2</sub>	OH	
1234		B-2	NH <sub>2</sub>	H	
1235		B-2	H		
1236		B-2	H		
1237		B-2	H	NH <sub>2</sub>	
1238		B-2	H	OH	
1239		B-1-a			
1240		B-1-b			
1241		B-3	H	NH <sub>2</sub>	H
1242		B-2	NH <sub>2</sub>		
1243		B-2	NH <sub>2</sub>		
1244		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1245		B-2	NH <sub>2</sub>	OH	
1246		B-2	NH <sub>2</sub>	H	
1247		B-2	H		
1248		B-2	H		
1249		B-2	H	NH <sub>2</sub>	
1250		B-2	H	OH	
1251		B-1-a			

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
1252		B-1-b			
1253		B-3	H	NH <sub>2</sub>	H
1254		B-2	NH <sub>2</sub>		
1255		B-2	NH <sub>2</sub>		
1256		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1267		B-2	NH <sub>2</sub>	OH	
1258		B-2	NH <sub>2</sub>	H	
1259		B-2	H		
1260		B-2	H		
1261		B-2	H	NH <sub>2</sub>	
1262		B-2	H	OH	
1263		B-1-a			
1264		B-1-b			
1265		B-3	H	NH <sub>2</sub>	H
1266		B-2	NH <sub>2</sub>		
1267		B-2	NH <sub>2</sub>		
1268		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1269		B-2	NH <sub>2</sub>	OH	
1270		B-2	NH <sub>2</sub>	H	

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
1271		B-2	H		
1272		B-2	H		
1273		B-2	H	NH <sub>2</sub>	
1274		B-2	H	OH	
1275		B-1-a			
1276		B-1-b			
1277		B-3	H	NH <sub>2</sub>	H
1278		B-2	NH <sub>2</sub>		
1279		B-2	NH <sub>2</sub>		
1280		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1281		B-2	NH <sub>2</sub>	OH	
1282		B-2	NH <sub>2</sub>	H	
1283		B-2	H		
1284		B-2	H		
1285		B-2	H	NH <sub>2</sub>	
1286		B-2	H	OH	
1287		B-1-a			
1288		B-1-b			

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
1289		B-3	H	NH <sub>2</sub>	H
1290		B-2	NH <sub>2</sub>		
1291		B-2	NH <sub>2</sub>		
1292		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1293		B-2	NH <sub>2</sub>	OH	
1294		B-2	NH <sub>2</sub>	H	
1295		B-2	H		
1296		B-2	H		
1297		B-2	H	NH <sub>2</sub>	
1298		B-2	H	OH	
1299		B-1-a			
1300		B-1-b			
1301		B-3	H	NH <sub>2</sub>	H
1302		B-2	NH <sub>2</sub>		
1303		B-2	NH <sub>2</sub>		
1304		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1305		B-2	NH <sub>2</sub>	OH	
1306		B-2	NH <sub>2</sub>	H	

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
1307		B-2	H		
1308		B-2	H		
1309		B-2	H	NH <sub>2</sub>	
1310		B-2	H	OH	
1311		B-1-a			
1312		B-1-b			
1313		B-3	H	NH <sub>2</sub>	H

### Biological activity

The anti-HCV activities of the exemplary compounds were tested in two biological assays -- a cell-based HCV replicon assay and a cytotoxicity assay.

#### 1. HCV Replicon Assay

A human hepatoma cell line (Huh-7) containing replicating HCV Con1 subgenomic replicon with a luciferase reporter gene (luc-ubi-neo) was used to evaluate anti-HCV activity of the compounds. In this assay, the level of luciferase signal correlates directly with the viral RNA replication. The HCV replicon-reporter cell line (NK/luc-ubi-neo) was cultured in DMEM medium supplemented with 10 % fetal bovine serum and 0.5 mg/ml Geneticin (G418). Cells were maintained in a subconfluent state to ensure high levels of HCV replicon RNA synthesis.

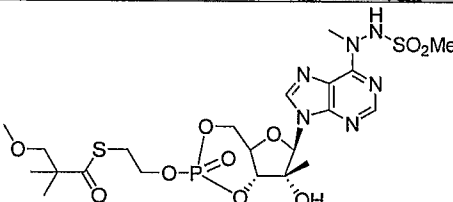
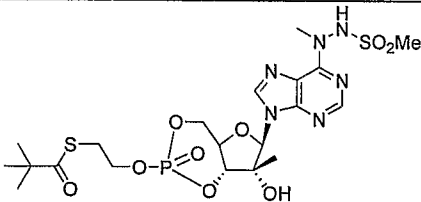
To evaluate the antiviral activity of compounds, serial dilutions were prepared with concentrations ranging from 0.14 to 300  $\mu$ M. Diluted compounds were transferred to a 96-well plate followed by the addition of replicon cells (6000 cells per

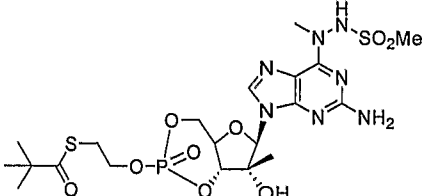
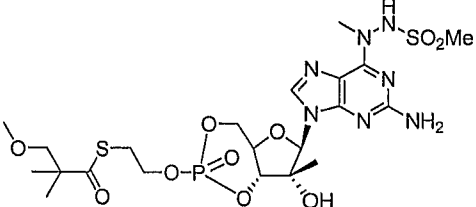
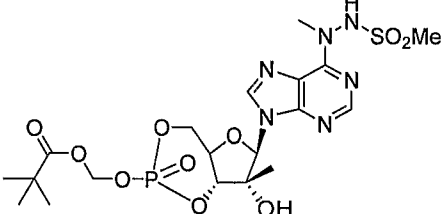
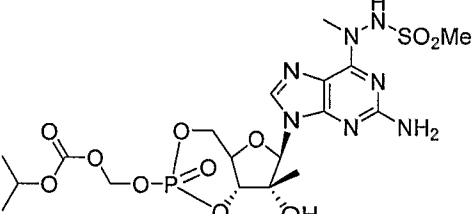
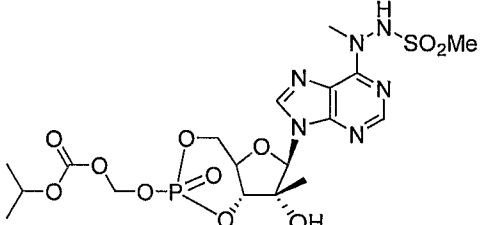
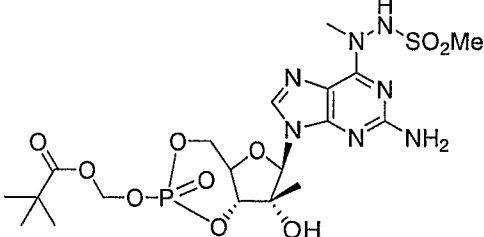
well). Cells were incubated with the compounds for 48 hours after which luciferase activity was measured. Reduction of luciferase signal reflected the decrease of HCV replicon RNA in the treated cells and used to determine the EC<sub>50</sub> value (concentration which yielded a 50 % reduction in luciferase activity).

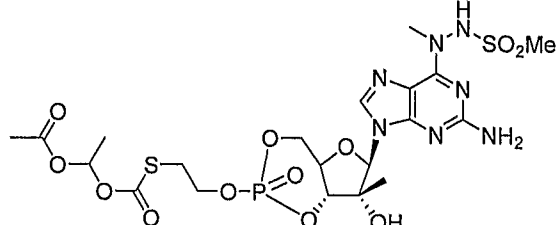
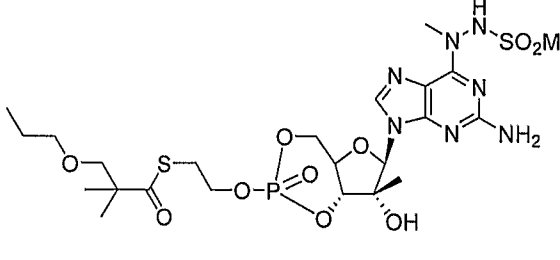
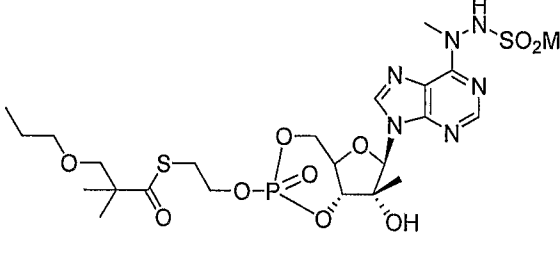
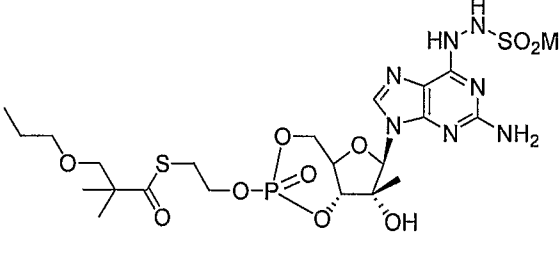
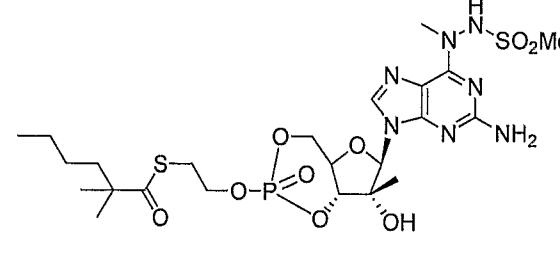
## 5 2. Cytotoxicity Assay

A Huh-7 cell line carrying a luciferase reporter gene (driven by a HIV LTR promoter) stably integrated into the chromosome was used to analyze the cytotoxic effect of the selected compounds. This cell line (LTR-luc) was maintained in DMEM medium with 10 % FBS. Design of the cytotoxicity assay was similar to that of the HCV replicon assay. Reduction of luciferase activity in the treated cells correlated with the cytotoxic effect of the test compound and was used to calculate the CC<sub>50</sub> value (concentration that inhibited cell growth by 50%).

The biological activities and cytotoxicity of the selected compounds are summarized in Table 4. Anti-HCV and anti-BVDV activities (EC<sub>50</sub> values) of the test compounds were categorized into three different groups: A (1 to 50 nM), B (50 to 500 μM) and C (500 to 1000 nM). The cytotoxicity (CC<sub>50</sub> values) of the compounds are indicated in μM.

Cpd #	A	HCV EC <sub>50</sub>	BVDV EC <sub>50</sub>	CC <sub>50</sub> (μM)
1		B	B	>50
2		B	B	>50

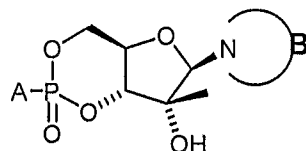
Cpd #	A	HCV EC <sub>50</sub>	BVDV EC <sub>50</sub>	CC <sub>50</sub> (μM)
3		A	A	>50
4		A	A	>300
5		B	C	>50
6		B	B	>50
7		B	B	>50
8		B	B	>50

Cpd #	A	HCV EC <sub>50</sub>	BVDV EC <sub>50</sub>	CC <sub>50</sub> (μM)
9		C	C	>50
10		A	A	>50
11		A	B	>50
12		B	B	B
13		A	A	>50

### Claims

What is claimed is

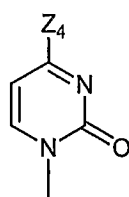
1. A compound of formula I



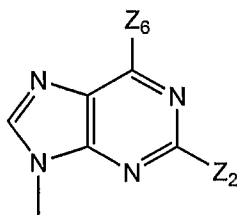
5

I

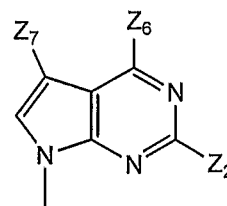
where B is selected from B-1, B-2, and B-3,



B-1



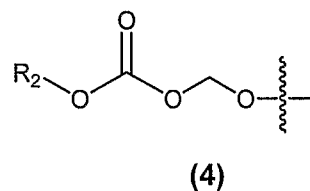
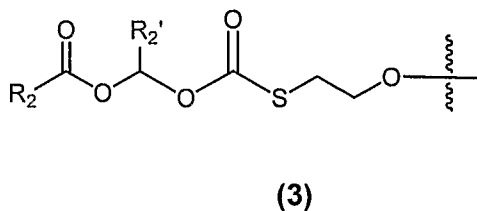
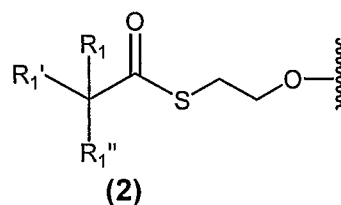
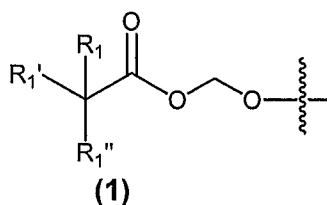
B-2



B-3

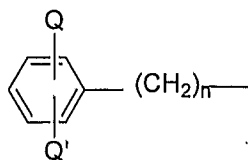
where  $Z_2$  is H,  $\text{NH}_2$ ,  $\text{NHMe}$ , or  $\text{NMe}_2$ ;  $Z_4$  is  $\text{NH}_2$  or  $\text{OH}$ ;  $Z_6$  is H,  $\text{OH}$ ,  $\text{OCH}_3$ ,  $\text{SCH}_3$ ,  
 10 thienyl, furyl, or  $\text{NR}_3\text{R}_4$ , where  $\text{R}_3$  is H,  $\text{C}_1$ - $\text{C}_3$  alkyl, or cyclopropyl, and  $\text{R}_4$  is H or  
 $\text{NHR}_5$ ,  $\text{R}_5$  is H,  $\text{C}_1$ - $\text{C}_4$  alkyl, or  $\text{SO}_2\text{R}_6$ , and  $\text{R}_6$  is  $\text{C}_1$ - $\text{C}_4$  alkyl; and  $Z_7$  is H, halogen, or  
 CN; and A is selected from Groups (1), (2), (3) and (4)

15



where  $\text{R}_1$  is H,  $\text{C}_1$ - $\text{C}_8$  alkyl,  $\text{C}_3$ - $\text{C}_6$  cycloalkyl- $(\text{CH}_2)_m$ -,  $\text{C}_3$ - $\text{C}_6$  cycloalkyl-O- $(\text{CH}_2)_m$ -,  
 20  $\text{C}_3$ - $\text{C}_6$  cycloalkyl- $(\text{CH}_2)_n$ -O- $(\text{CH}_2)_m$ -, or  $\text{C}_1$ - $\text{C}_8$  alkyl-O- $(\text{CH}_2)_m$ -, where the alkyl and  
 cycloalkyl groups are either unsubstituted or are optionally substituted with one or

two C<sub>1</sub>-C<sub>3</sub> alkyl groups, with one or two trifluoromethyl groups, and with one or two halogen atoms, where m = zero to 4, and where n = zero to 2; and R<sub>1</sub>' and R<sub>1</sub>" are, independently, H, C<sub>3</sub>-C<sub>5</sub> cycloalkyl, or C<sub>1</sub>-C<sub>4</sub> alkyl; R<sub>2</sub> is C<sub>1-6</sub> alkyl or C<sub>3-5</sub> cycloalkyl-(CH<sub>2</sub>)<sub>n</sub> or



5 where Q and Q' are, independently, H, F, Cl, Br, or C<sub>1</sub>-C<sub>3</sub> alkyl, said C<sub>1</sub>-C<sub>3</sub> alkyl group or groups optionally substituted with one or more halogen atoms, where n = 0 to 2; and where R<sub>2</sub>' is H, C<sub>3</sub>-C<sub>5</sub> cycloalkyl, or C<sub>1</sub>-C<sub>4</sub> alkyl.

2. The compound of claim 1, where B is B-1 and A is (1) or (2).
- 10 3. The compound of claim 1, where B is B-1 and A is (3) or (4)
4. The compound of claim 2, where R<sub>1</sub>' and R<sub>1</sub>" are both methyl and R<sub>1</sub> is C<sub>1</sub>-C<sub>6</sub> alkyl or C<sub>1</sub>-C<sub>6</sub> alkyl-O-(CH<sub>2</sub>)<sub>m</sub>, where m = zero to 4.
5. The compound of claim 2, where R<sub>1</sub>' and R<sub>1</sub>" are both methyl and R<sub>1</sub> is C<sub>3</sub>-C<sub>6</sub> cycloalkyl-(CH<sub>2</sub>)<sub>m</sub>- or C<sub>3</sub>-C<sub>6</sub> cycloalkyl-(CH<sub>2</sub>)<sub>n</sub>-O-(CH<sub>2</sub>)<sub>m</sub>-, where n = zero to 2 and m = zero to 4.
- 15 = zero to 4.
6. The compound of claim 1, where B is B-2 or B-3, where Z<sub>2</sub> is H, NH<sub>2</sub>, or NHMe; Z<sub>6</sub> is H or NR<sub>3</sub>R<sub>4</sub>; and Z<sub>7</sub> is H, CN, or halogen.
7. The compound of claim 6, where R<sub>3</sub> is H, methyl, ethyl, or cyclopropyl.
8. The compound of claim 7, where Z<sub>6</sub> is NR<sub>3</sub>NHR<sub>5</sub>; and Z<sub>7</sub> is H, F, or CN.
- 20 9. The compound of claim 8, where Z<sub>2</sub> is H or NH<sub>2</sub>; Z<sub>6</sub> is NR<sub>3</sub>NHSO<sub>2</sub>R<sub>6</sub>; and Z<sub>7</sub> is H, F, or CN.
10. The compound of claim 9, where R<sub>3</sub> is H, methyl, or cyclopropyl; R<sub>6</sub> is methyl or ethyl; and Z<sub>7</sub> is H, F, or CN.
11. The compound of claim 6 or claim 8, where A is (1) or (2), where R<sub>1</sub>' and R<sub>1</sub>" are both methyl and R<sub>1</sub> is C<sub>1</sub>-C<sub>6</sub> alkyl or C<sub>1</sub>-C<sub>6</sub> alkyl-O-(CH<sub>2</sub>)<sub>m</sub>, where m = zero to 2.
- 25 both methyl and R<sub>1</sub> is C<sub>1</sub>-C<sub>6</sub> alkyl or C<sub>1</sub>-C<sub>6</sub> alkyl-O-(CH<sub>2</sub>)<sub>m</sub>, where m = zero to 2.

12. The compound of claim 10, where R<sub>1</sub> is C<sub>3</sub>-C<sub>6</sub> cycloalkyl-(CH<sub>2</sub>)<sub>n</sub>-O-(CH<sub>2</sub>)<sub>m</sub>-, said cycloalkyl optionally substituted as described in claim 1, where m = 1 or 2 and n = zero or 1.
13. The compound of claim 11, where A is (2), R<sub>3</sub> is H or methyl, R<sub>6</sub> is methyl, and  
5 R<sub>1</sub> is C<sub>1</sub>-C<sub>6</sub> alkyl or C<sub>1</sub>-C<sub>6</sub> alkyl-O-(CH<sub>2</sub>)<sub>n</sub>-.
14. The compound of claim 13, where Z<sub>7</sub> is H, R<sub>1</sub> is Y or Y-O-(CH<sub>2</sub>)<sub>n</sub>-, where Y is methyl, ethyl, *n*-propyl, isopropyl, *n*-butyl, isobutyl, *sec*-butyl, *tert*-butyl, *n*-pentyl, isopentyl, neopentyl, *n*-hexyl, or isohexyl.
15. The compound of claim 11, where A is (1), R<sub>3</sub> is H or methyl, R<sub>6</sub> is methyl, and  
10 R<sub>1</sub> is C<sub>1</sub>-C<sub>6</sub> alkyl or C<sub>1</sub>-C<sub>6</sub> alkyl-O-(CH<sub>2</sub>)<sub>n</sub>-.
16. The compound of claim 15, where Z<sub>7</sub> is H, R<sub>1</sub> is Y or Y-O-(CH<sub>2</sub>)<sub>n</sub>-, where Y is methyl, ethyl, *n*-propyl, isopropyl, *n*-butyl, isobutyl, *sec*-butyl, *tert*-butyl, *n*-pentyl, isopentyl, neopentyl, *n*-hexyl, or isohexyl.
17. The compound of claim 14 or claim 16, where B is B-2.
- 15 18. The compound of claim 14 or claim 16, where B is B-3.
19. The compound of claim 7, where R<sub>5</sub> is H or C<sub>1</sub>-C<sub>4</sub> alkyl; A is (1) or (2); R<sub>1</sub>' and R<sub>1</sub>" are both methyl; and R<sub>1</sub> is C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> alkyl-O-(CH<sub>2</sub>)<sub>m</sub>-, or C<sub>3</sub>-C<sub>6</sub> cycloalkyl-(CH<sub>2</sub>)<sub>n</sub>-O-(CH<sub>2</sub>)<sub>m</sub>-, where m = zero to 2 and n = zero to 2.
20. The compound of claim 19, where, R<sub>3</sub> is H or methyl, and R<sub>5</sub> is H or C<sub>1</sub>-C<sub>4</sub> alkyl.
- 20 21. The compound of claim 9, where A is (3) or (4), wherein, if A is (3), R<sub>2</sub>' is methyl, ethyl, or isopropyl and R<sub>2</sub>" is H or methyl, and where R<sub>2</sub> is C<sub>1-6</sub> alkyl or C<sub>3-5</sub> cycloalkyl-(CH<sub>2</sub>)<sub>n</sub>, where n = 0 to 2.
22. The compound of claim 21, where R<sub>2</sub> is C<sub>1-4</sub> alkyl; R<sub>3</sub> is H or methyl; and R<sub>6</sub> is methyl.
- 25 23. The compound of claim 9, where A is (3) or (4), wherein, if A is (3), R<sub>2</sub>' is methyl, ethyl, or isopropyl, and R<sub>2</sub>" is H or methyl, and where R<sub>2</sub> is phenyl or benzyl, wherein

- said phenyl group or the phenyl moiety of said benzyl group is substituted with one or two halogen atoms or with one or two C<sub>1</sub>-C<sub>3</sub> alkyl groups.
24. The compound of claim 22 or claim 23, where A is (3).
25. The compound of claim 22 or claim 23, where A is (4).
- 5 26. The compound of claim 6, where B is B-2, Z<sub>2</sub> is NH<sub>2</sub>, and Z<sub>6</sub> is NH-NH-SO<sub>2</sub>Me, N(Me)-NH-SO<sub>2</sub>Me, N(cyclopropyl)-NH-SO<sub>2</sub>Me, or N(Et)-NH-SO<sub>2</sub>Me.
27. The compound of claim 6, where B is B-2, Z<sub>2</sub> is NH<sub>2</sub>, and Z<sub>6</sub> is NH<sub>2</sub>, NHMe, N(Me)-NH<sub>2</sub>, N(cyclopropyl)-NH<sub>2</sub>, or N(Et)-NH<sub>2</sub>.
28. The compound of claim 26, where A is (2) and R<sub>1</sub>' and R<sub>1</sub>" are both methyl.
- 10 29. The compound of claim 27, where A is (2) and R<sub>1</sub>' and R<sub>1</sub>" are both methyl.
30. The compound of claim 28 or claim 29, where R<sub>1</sub> is C<sub>1</sub>-C<sub>6</sub> alkyl or C<sub>1</sub>-C<sub>6</sub> alkyl-O-(CH<sub>2</sub>)<sub>m</sub>-, where the C<sub>1</sub>-C<sub>6</sub> alkyl group is substituted with one or two halogens, where m = 0 to 2.
31. The compound of claim 28 or claim 29, where R<sub>1</sub> is C<sub>5</sub>-C<sub>8</sub> alkyl or C<sub>5</sub>-C<sub>8</sub> alkyl-O-(CH<sub>2</sub>)<sub>m</sub>-, where the C<sub>5</sub>-C<sub>8</sub> alkyl group is substituted with one or two halogens, where m = 0 to 2.
- 15 32. The compound of claim 28 or claim 29, where R<sub>1</sub> is C<sub>1</sub>-C<sub>6</sub> alkyl or C<sub>1</sub>-C<sub>6</sub> alkyl-O-(CH<sub>2</sub>)<sub>m</sub>-, where the C<sub>1</sub>-C<sub>6</sub> alkyl group is substituted with one or two trifluoromethyl groups, and where m = 0 to 2.
- 20 31. The compound of claim 28 or claim 29, where R<sub>1</sub> is C<sub>1</sub>-C<sub>6</sub> alkyl or C<sub>1</sub>-C<sub>6</sub> alkyl-O-(CH<sub>2</sub>)<sub>m</sub>-, where the C<sub>1</sub>-C<sub>6</sub> alkyl group is unsubstituted, and where m = 0 to 2.
32. The compound of claim 28 or claim 29, where R<sub>1</sub> is C<sub>1</sub>-C<sub>6</sub> alkyl or C<sub>1</sub>-C<sub>6</sub> alkyl-O-, where the C<sub>1</sub>-C<sub>6</sub> alkyl group is unsubstituted.
33. The compound of claim 28 or claim 29, where R<sub>1</sub> is C<sub>1</sub>-C<sub>6</sub> alkyl or C<sub>1</sub>-C<sub>6</sub> alkyl-O-(CH<sub>2</sub>)<sub>m</sub>-, where the C<sub>1</sub>-C<sub>6</sub> alkyl group is unsubstituted, and where m = 2.
- 25

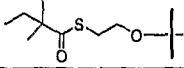
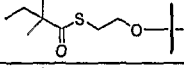
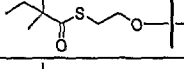
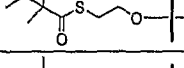
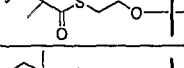
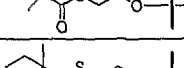
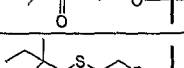
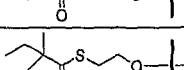
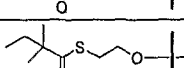
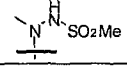
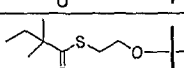
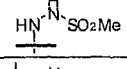
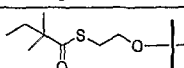
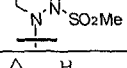
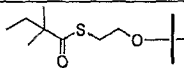
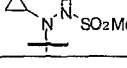
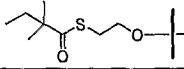
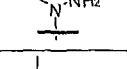
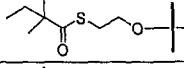
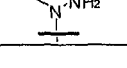
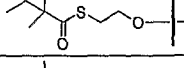
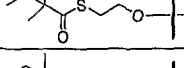
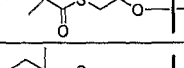
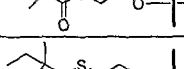
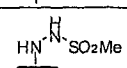
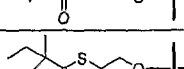
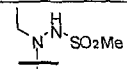
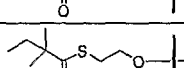
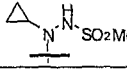
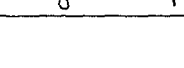
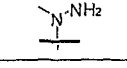


33. The compound of claim 28 or claim 29, where R<sub>1</sub> is C<sub>1</sub>-C<sub>6</sub> alkyl or C<sub>1</sub>-C<sub>6</sub> alkyl-O-(CH<sub>2</sub>)-, where the C<sub>1</sub>-C<sub>6</sub> alkyl group is unsubstituted.

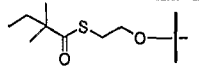

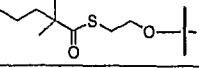

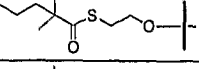

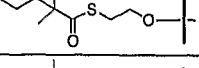

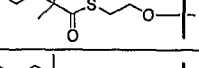

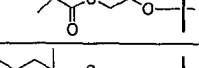

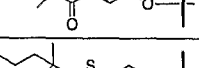

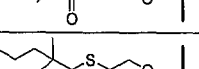

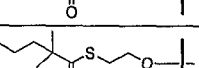
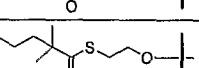
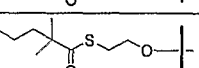
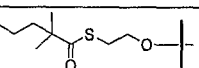
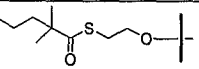
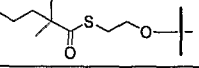
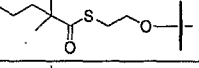
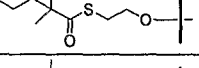

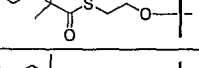

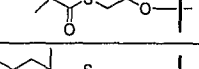

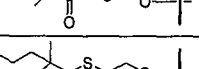

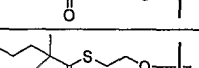

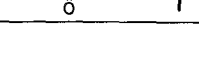



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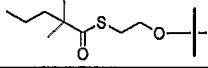
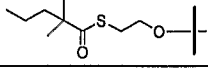
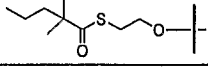
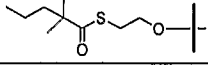
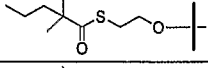
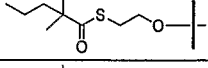
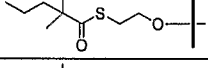
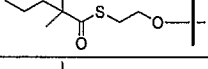
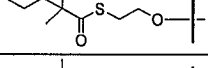
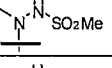
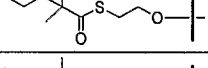
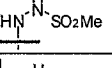
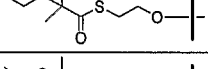
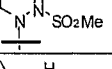
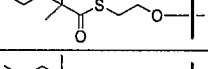
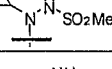
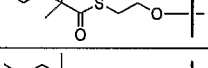
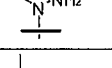
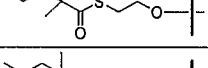
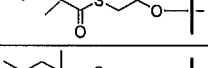
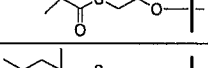
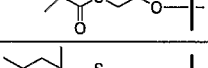
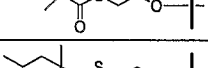
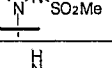
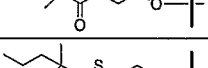
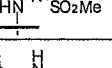
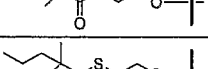
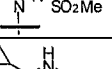
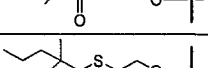
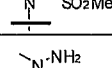
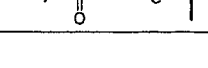
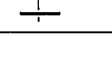
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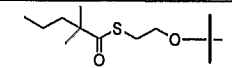

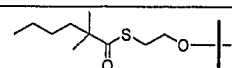

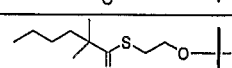

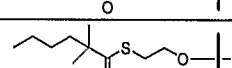

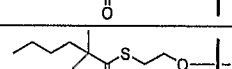

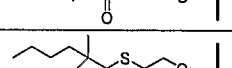

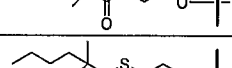

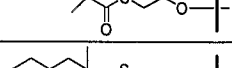

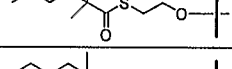
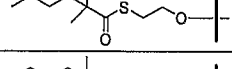
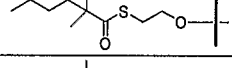
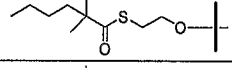
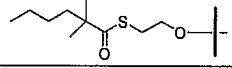
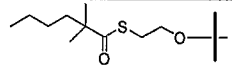
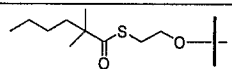
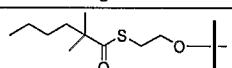

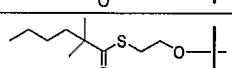

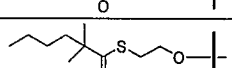

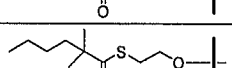

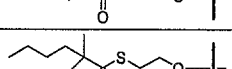

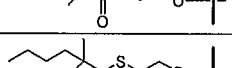

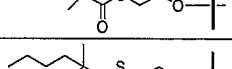

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
21		B-2	H		
22		B-2	H	NH <sub>2</sub>	
23		B-2	H	OH	
24		B-2	H	NHMe	
25		B-2	H	OMe	
26		B-2	H	OEt	
27		B-2	H	SMe	
28		B-1-a			
29		B-1-b			
30		B-3	NH <sub>2</sub>		H
31		B-3	NH <sub>2</sub>		H
32		B-3	NH <sub>2</sub>		H
33		B-3	NH <sub>2</sub>		H
34		B-3	NH <sub>2</sub>		H
35		B-3	NH <sub>2</sub>		H
36		B-3	H	NH <sub>2</sub>	CN
37		B-3	H	NH <sub>2</sub>	H
38		B-3	H	NH <sub>2</sub>	F
39		B-3	H		H
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41		B-3	H		H
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43		B-3	H		H

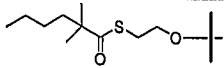
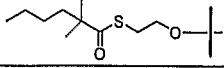
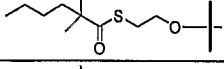
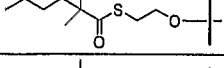
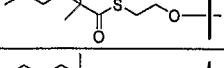
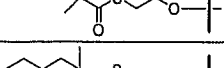
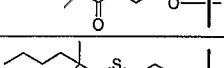
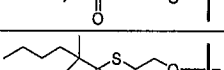
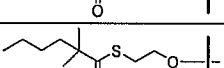
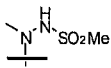
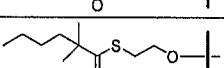
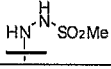
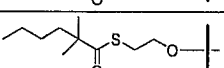
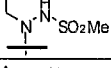
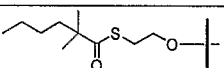
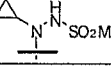
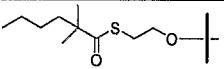
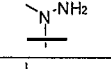
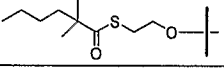
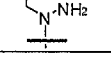
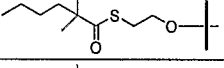
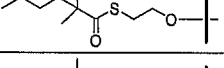
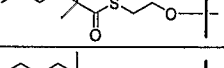
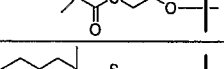
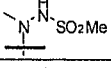
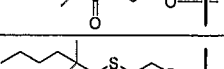
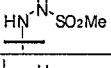
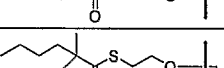
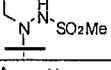
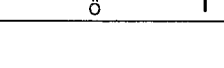
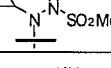

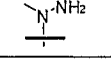
CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
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45		B-2	NH <sub>2</sub>		
46		B-2	NH <sub>2</sub>		
47		B-2	NH <sub>2</sub>		
48		B-2	NH <sub>2</sub>		
49		B-2	NH <sub>2</sub>		
50		B-2	NH <sub>2</sub>		
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52		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
53		B-2	NH <sub>2</sub>	OH	
54		B-2	NH <sub>2</sub>	NHMe	
55		B-2	NH <sub>2</sub>	OMe	
56		B-2	NH <sub>2</sub>	OEt	
67		B-2	NH <sub>2</sub>	SMe	
58		B-2	NH <sub>2</sub>	H	
59		B-2	H		
60		B-2	H		
61		B-2	H		
62		B-2	H		
63		B-2	H		
64		B-2	H		
65		B-2	H		

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
66		B-2	H	NH <sub>2</sub>	
67		B-2	H	OH	
68		B-2	H	NHMe	
69		B-2	H	OMe	
70		B-2	H	OEt	
71		B-2	H	SMe	
72		B-1-a			
73		B-1-b			
74		B-3	NH <sub>2</sub>		H
75		B-3	NH <sub>2</sub>		H
76		B-3	NH <sub>2</sub>		H
77		B-3	NH <sub>2</sub>		H
78		B-3	NH <sub>2</sub>		H
79		B-3	NH <sub>2</sub>		H
80		B-3	H	NH <sub>2</sub>	CN
81		B-3	H	NH <sub>2</sub>	H
82		B-3	H	NH <sub>2</sub>	F
83		B-3	H		H
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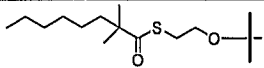
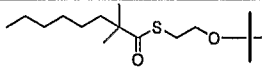
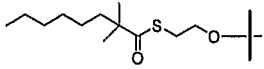
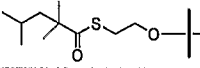
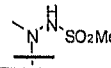
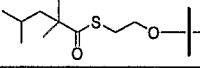
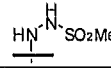
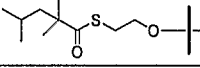
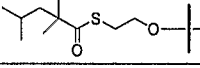
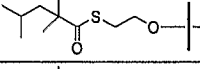
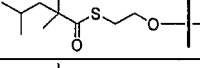
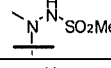
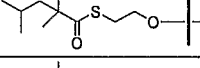
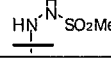
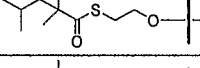
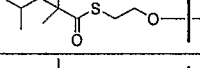
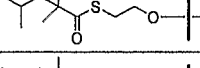
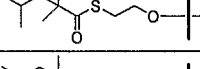
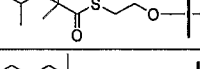
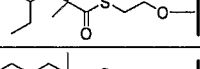
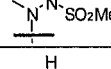
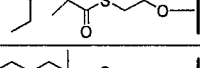
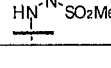
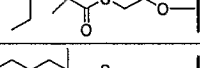
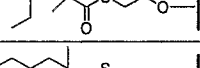
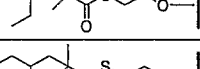
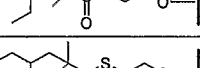
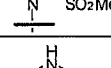
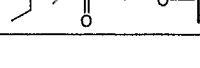
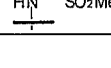
CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
88		B-3	H		H
89		B-2	NH <sub>2</sub>		
90		B-2	NH <sub>2</sub>		
91		B-2	NH <sub>2</sub>		
92		B-2	NH <sub>2</sub>		
93		B-2	NH <sub>2</sub>		
94		B-2	NH <sub>2</sub>		
95		B-2	NH <sub>2</sub>		
96		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
97		B-2	NH <sub>2</sub>	OH	
98		B-2	NH <sub>2</sub>	NHMe	
99		B-2	NH <sub>2</sub>	OMe	
100		B-2	NH <sub>2</sub>	OEt	
101		B-2	NH <sub>2</sub>	SMe	
102		B-2	NH <sub>2</sub>	H	
103		B-2	H		
104		B-2	H		
105		B-2	H		
106		B-2	H		
107		B-2	H		
108		B-2	H		
109		B-2	H		

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
110		B-2	H	NH <sub>2</sub>	
111		B-2	H	OH	
112		B-2	H	NHMe	
113		B-2	H	OMe	
114		B-2	H	OEt	
115		B-2	H	SMe	
116		B-1-a			
117		B-1-b			
118		B-3	NH <sub>2</sub>		H
119		B-3	NH <sub>2</sub>		H
120		B-3	NH <sub>2</sub>		H
121		B-3	NH <sub>2</sub>		H
122		B-3	NH <sub>2</sub>		H
123		B-3	NH <sub>2</sub>		H
124		B-3	H	NH <sub>2</sub>	CN
125		B-3	H	NH <sub>2</sub>	H
126		B-3	H	NH <sub>2</sub>	F
127		B-3	H		H
128		B-3	H		H
129		B-3	H		H
130		B-3	H		H
131		B-3	H		H

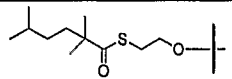
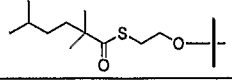
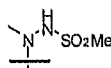
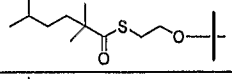
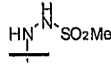
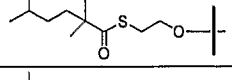
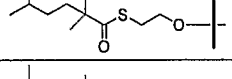
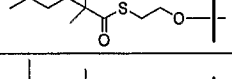
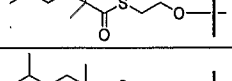
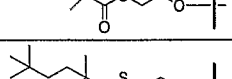
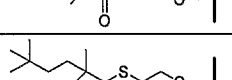
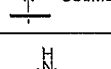
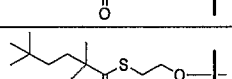
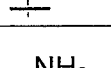
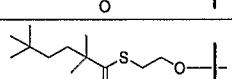
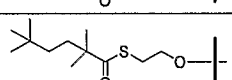
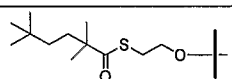
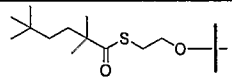
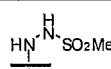
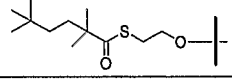
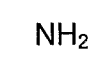
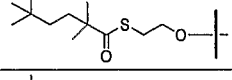
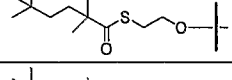
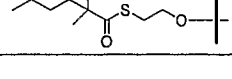

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
132		B-3	H		H
133		B-2	NH <sub>2</sub>		
134		B-2	NH <sub>2</sub>		
135		B-2	NH <sub>2</sub>		
136		B-2	NH <sub>2</sub>		
137		B-2	NH <sub>2</sub>		
138		B-2	NH <sub>2</sub>		
139		B-2	NH <sub>2</sub>		
140		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
141		B-2	NH <sub>2</sub>	OH	
142		B-2	NH <sub>2</sub>	NHMe	
143		B-2	NH <sub>2</sub>	OMe	
144		B-2	NH <sub>2</sub>	OEt	
145		B-2	NH <sub>2</sub>	SMe	
146		B-2	NH <sub>2</sub>	H	
147		B-2	H		
148		B-2	H		
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150		B-2	H		
151		B-2	H		
152		B-2	H		
153		B-2	H		

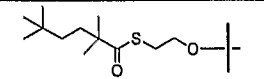
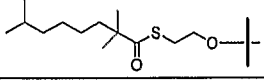
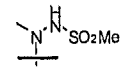
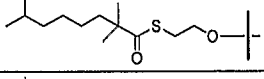
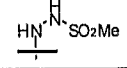
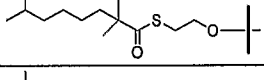
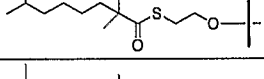
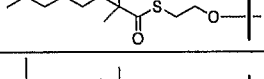
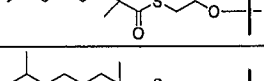
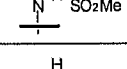
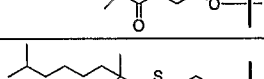
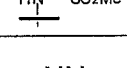
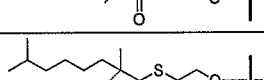
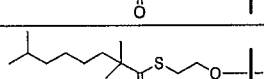
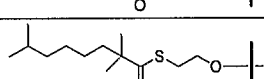
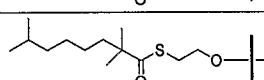
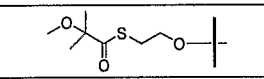
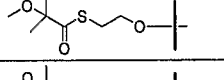
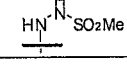
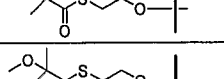
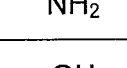
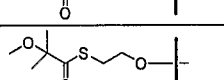
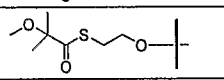
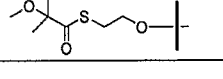




CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
154		B-2	H	NH <sub>2</sub>	
155		B-2	H	OH	
156		B-2	H	NHMe	
167		B-2	H	OMe	
158		B-2	H	OEt	
159		B-2	H	SMe	
160		B-1-a			
161		B-1-b			
162		B-3	NH <sub>2</sub>		H
163		B-3	NH <sub>2</sub>		H
164		B-3	NH <sub>2</sub>		H
165		B-3	NH <sub>2</sub>		H
166		B-3	NH <sub>2</sub>		H
167		B-3	NH <sub>2</sub>		H
168		B-3	H	NH <sub>2</sub>	CN
169		B-3	H	NH <sub>2</sub>	H
170		B-3	H	NH <sub>2</sub>	F
171		B-3	H		H
172		B-3	H		H
173		B-3	H		H
174		B-3	H		H
175		B-3	H		H

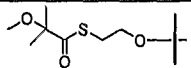
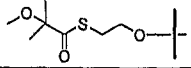
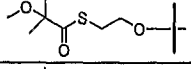
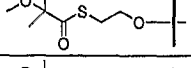
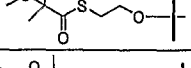
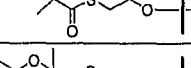
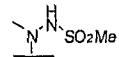
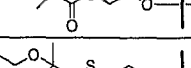
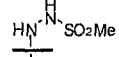
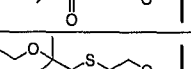
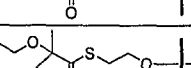
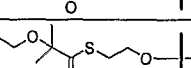
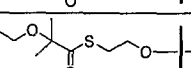
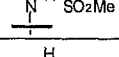
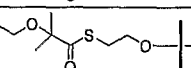
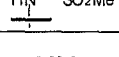
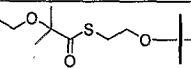
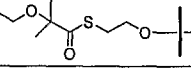
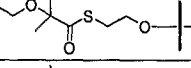
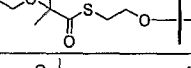
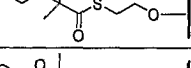
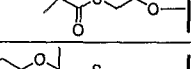
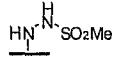
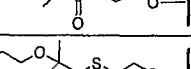
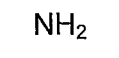
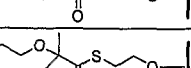
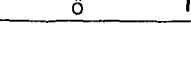

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
176		B-3	H		H
177		B-2	NH <sub>2</sub>		
178		B-2	NH <sub>2</sub>		
179		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
180		B-2	NH <sub>2</sub>	OH	
181		B-2	NH <sub>2</sub>	H	
182		B-2	H		
183		B-2	H		
184		B-2	H	NH <sub>2</sub>	
185		B-2	H	OH	
186		B-1-a			
187		B-1-b			
188		B-3	H	NH <sub>2</sub>	H
189		B-2	NH <sub>2</sub>		
190		B-2	NH <sub>2</sub>		
191		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
192		B-2	NH <sub>2</sub>	OH	
193		B-2	NH <sub>2</sub>	H	
194		B-2	H		
195		B-2	H		
196		B-2	H	NH <sub>2</sub>	
197		B-2	H	OH	

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
198		B-1-a			
199		B-1-b			
200		B-3	H	NH <sub>2</sub>	H
201		B-2	NH <sub>2</sub>		
202		B-2	NH <sub>2</sub>		
203		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
204		B-2	NH <sub>2</sub>	OH	
205		B-2	NH <sub>2</sub>	H	
206		B-2	H		
207		B-2	H		
208		B-2	H	NH <sub>2</sub>	
209		B-2	H	OH	
210		B-1-a			
211		B-1-b			
212		B-3	H	NH <sub>2</sub>	H
213		B-2	NH <sub>2</sub>		
214		B-2	NH <sub>2</sub>		
215		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
216		B-2	NH <sub>2</sub>	OH	
217		B-2	NH <sub>2</sub>	H	
218		B-2	H		
219		B-2	H		

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
220		B-2	H	NH <sub>2</sub>	
221		B-2	H	OH	
222		B-1-a			
223		B-1-b			
224		B-3	H	NH <sub>2</sub>	H
225		B-2	NH <sub>2</sub>		
226		B-2	NH <sub>2</sub>		
227		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
228		B-2	NH <sub>2</sub>	OH	
229		B-2	NH <sub>2</sub>	H	
230		B-2	H		
231		B-2	H		
232		B-2	H	NH <sub>2</sub>	
233		B-2	H	OH	
234		B-1-a			
235		B-1-b			
236		B-3	H	NH <sub>2</sub>	H
237		B-2	NH <sub>2</sub>		
238		B-2	NH <sub>2</sub>		
239		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
240		B-2	NH <sub>2</sub>	OH	

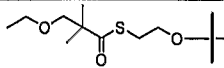
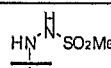
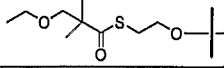
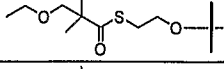
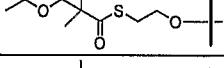
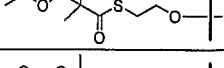
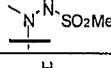
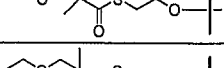
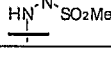
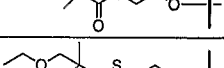
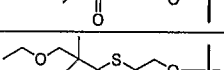
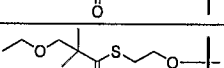
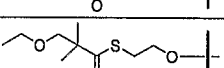
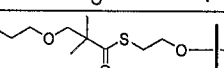
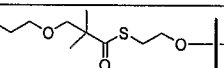
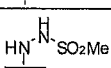
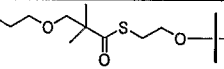
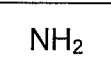
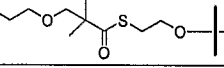
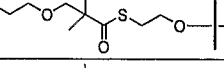
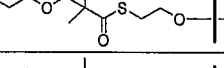
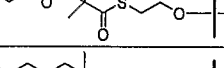
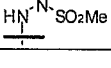
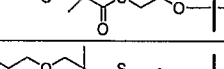
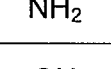
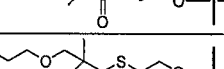
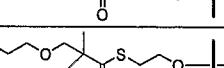
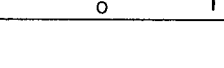

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
241		B-2	NH <sub>2</sub>	H	
242		B-2	H		
243		B-2	H		
244		B-2	H	NH <sub>2</sub>	
245		B-2	H	OH	
246		B-1-a			
247		B-1-b			
248		B-3	H	NH <sub>2</sub>	H
249		B-2	NH <sub>2</sub>		
250		B-2	NH <sub>2</sub>		
251		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
252		B-2	NH <sub>2</sub>	OH	
253		B-2	NH <sub>2</sub>	H	
254		B-2	H		
255		B-2	H		
256		B-2	H	NH <sub>2</sub>	
267		B-2	H	OH	
258		B-1-a			
259		B-1-b			

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
260		B-3	H	NH <sub>2</sub>	H
261		B-2	NH <sub>2</sub>		
262		B-2	NH <sub>2</sub>		
263		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
264		B-2	NH <sub>2</sub>	OH	
265		B-2	NH <sub>2</sub>	H	
266		B-2	H		
267		B-2	H		
268		B-2	H	NH <sub>2</sub>	
269		B-2	H	OH	
270		B-1-a			
271		B-1-b			
272		B-3	H	NH <sub>2</sub>	H
273		B-2	NH <sub>2</sub>		
274		B-2	NH <sub>2</sub>		
275		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
276		B-2	NH <sub>2</sub>	OH	
277		B-2	NH <sub>2</sub>	H	
278		B-2	H		
279		B-2	H		

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
280		B-2	H	NH <sub>2</sub>	
281		B-2	H	OH	
282		B-1-a			
283		B-1-b			
284		B-3	H	NH <sub>2</sub>	H
285		B-2	NH <sub>2</sub>		
286		B-2	NH <sub>2</sub>		
287		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
288		B-2	NH <sub>2</sub>	OH	
289		B-2	NH <sub>2</sub>	H	
290		B-2	H		
291		B-2	H		
292		B-2	H	NH <sub>2</sub>	
293		B-2	H	OH	
294		B-1-a			
295		B-1-b			
296		B-3	H	NH <sub>2</sub>	H
297		B-2	NH <sub>2</sub>		
298		B-2	NH <sub>2</sub>		
299		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
300		B-2	NH <sub>2</sub>	OH	
301		B-2	NH <sub>2</sub>	H	

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
302		B-2	H		
303		B-2	H		
304		B-2	H	NH <sub>2</sub>	
305		B-2	H	OH	
306		B-1-a			
307		B-1-b			
308		B-3	H	NH <sub>2</sub>	H
309		B-2	NH <sub>2</sub>		
310		B-2	NH <sub>2</sub>		
311		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
312		B-2	NH <sub>2</sub>	OH	
313		B-2	NH <sub>2</sub>	H	
314		B-2	H		
315		B-2	H		
316		B-2	H	NH <sub>2</sub>	
317		B-2	H	OH	
318		B-1-a			
319		B-1-b			
320		B-3	H	NH <sub>2</sub>	H
321		B-2	NH <sub>2</sub>		
322		B-2	NH <sub>2</sub>		
323		B-2	NH <sub>2</sub>	NH <sub>2</sub>	

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
324		B-2	NH <sub>2</sub>	OH	
325		B-2	NH <sub>2</sub>	H	
326		B-2	H		
327		B-2	H		
328		B-2	H	NH <sub>2</sub>	
329		B-2	H	OH	
330		B-1-a			
331		B-1-b			
332		B-3	H	NH <sub>2</sub>	H
333		B-2	NH <sub>2</sub>		
334		B-2	NH <sub>2</sub>		
335		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
336		B-2	NH <sub>2</sub>	OH	
337		B-2	NH <sub>2</sub>	H	
338		B-2	H		
339		B-2	H		
340		B-2	H	NH <sub>2</sub>	
341		B-2	H	OH	
342		B-1-a			
343		B-1-b			
344		B-3	H	NH <sub>2</sub>	H
345		B-2	NH <sub>2</sub>		

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
346		B-2	NH <sub>2</sub>		
347		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
348		B-2	NH <sub>2</sub>	OH	
349		B-2	NH <sub>2</sub>	H	
350		B-2	H		
351		B-2	H		
352		B-2	H	NH <sub>2</sub>	
353		B-2	H	OH	
354		B-1-a			
355		B-1-b			
356		B-3	H	NH <sub>2</sub>	H
367		B-2	NH <sub>2</sub>		
358		B-2	NH <sub>2</sub>		
359		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
360		B-2	NH <sub>2</sub>	OH	
361		B-2	NH <sub>2</sub>	H	
362		B-2	H		
363		B-2	H		
364		B-2	H	NH <sub>2</sub>	
365		B-2	H	OH	
366		B-1-a			
367		B-1-b			

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
368		B-3	H	NH <sub>2</sub>	H
369		B-2	NH <sub>2</sub>		
370		B-2	NH <sub>2</sub>		
371		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
372		B-2	NH <sub>2</sub>	OH	
373		B-2	NH <sub>2</sub>	H	
374		B-2	H		
375		B-2	H		
376		B-2	H	NH <sub>2</sub>	
377		B-2	H	OH	
378		B-1-a			
379		B-1-b			
380		B-3	H	NH <sub>2</sub>	H
381		B-2	NH <sub>2</sub>		
382		B-2	NH <sub>2</sub>		
383		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
384		B-2	NH <sub>2</sub>	OH	
385		B-2	NH <sub>2</sub>	H	
386		B-2	H		
387		B-2	H		
388		B-2	H	NH <sub>2</sub>	
389		B-2	H	OH	

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
390		B-1-a			
391		B-1-b			
392		B-3	H	NH <sub>2</sub>	H
394		B-2	NH <sub>2</sub>		
395		B-2	NH <sub>2</sub>		
396		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
397		B-2	NH <sub>2</sub>	OH	
398		B-2	NH <sub>2</sub>	H	
399		B-2	H		
400		B-2	H		
401		B-2	H	NH <sub>2</sub>	
402		B-2	H	OH	
403		B-1-a			
404		B-1-b			
405		B-3	H	NH <sub>2</sub>	H
406		B-2	NH <sub>2</sub>		
407		B-2	NH <sub>2</sub>		
408		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
409		B-2	NH <sub>2</sub>	OH	
410		B-2	NH <sub>2</sub>	H	
411		B-2	H		
412		B-2	H		

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
413		B-2	H	NH <sub>2</sub>	
414		B-2	H	OH	
415		B-1-a			
416		B-1-b			
417		B-3	H	NH <sub>2</sub>	H
418		B-2	NH <sub>2</sub>		
419		B-2	NH <sub>2</sub>		
420		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
421		B-2	NH <sub>2</sub>	OH	
422		B-2	NH <sub>2</sub>	H	
423		B-2	H		
424		B-2	H		
425		B-2	H	NH <sub>2</sub>	
426		B-2	H	OH	
427		B-1-a			
428		B-1-b			
429		B-3	H	NH <sub>2</sub>	H
430		B-2	NH <sub>2</sub>		
431		B-2	NH <sub>2</sub>		
432		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
433		B-2	NH <sub>2</sub>	OH	
434		B-2	NH <sub>2</sub>	H	

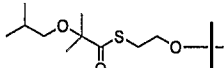
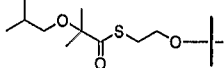
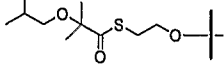
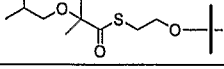
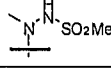
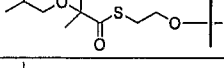
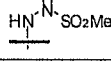
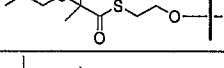
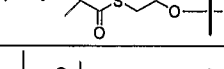
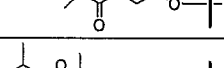
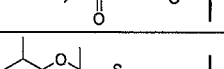
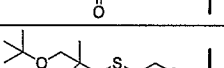
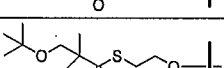
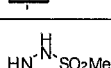
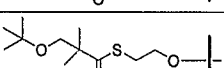
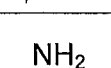
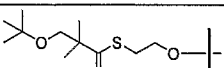
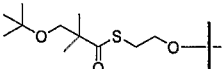
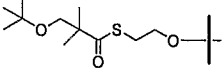
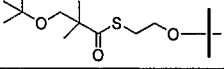
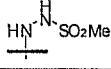
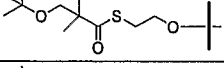
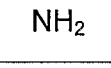
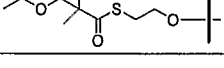

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
435		B-2	H		
436		B-2	H		
437		B-2	H	NH <sub>2</sub>	
438		B-2	H	OH	
439		B-1-a			
440		B-1-b			
441		B-3	H	NH <sub>2</sub>	H
442		B-2	NH <sub>2</sub>		
443		B-2	NH <sub>2</sub>		
444		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
445		B-2	NH <sub>2</sub>	OH	
446		B-2	NH <sub>2</sub>	H	
447		B-2	H		
448		B-2	H		
449		B-2	H	NH <sub>2</sub>	
450		B-2	H	OH	
451		B-1-a			
452		B-1-b			
453		B-3	H	NH <sub>2</sub>	H
454		B-2	NH <sub>2</sub>		
455		B-2	NH <sub>2</sub>		
456		B-2	NH <sub>2</sub>	NH <sub>2</sub>	

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
467		B-2	NH <sub>2</sub>	OH	
458		B-2	NH <sub>2</sub>	H	
459		B-2	H		
460		B-2	H		
461		B-2	H	NH <sub>2</sub>	
462		B-2	H	OH	
463		B-1-a			
464		B-1-b			
465		B-3	H	NH <sub>2</sub>	H
466		B-2	NH <sub>2</sub>		
467		B-2	NH <sub>2</sub>		
468		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
469		B-2	NH <sub>2</sub>	OH	
470		B-2	NH <sub>2</sub>	H	
471		B-2	H		
472		B-2	H		
473		B-2	H	NH <sub>2</sub>	
474		B-2	H	OH	
475		B-1-a			
476		B-1-b			
477		B-3	H	NH <sub>2</sub>	H
478		B-2	NH <sub>2</sub>		

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
479		B-2	NH <sub>2</sub>		
480		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
481		B-2	NH <sub>2</sub>	OH	
482		B-2	NH <sub>2</sub>	H	
483		B-2	H		
484		B-2	H		
485		B-2	H	NH <sub>2</sub>	
486		B-2	H	OH	
487		B-1-a			
488		B-1-b			
489		B-3	H	NH <sub>2</sub>	H
490		B-2	NH <sub>2</sub>		
491		B-2	NH <sub>2</sub>		
492		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
493		B-2	NH <sub>2</sub>	OH	
494		B-2	NH <sub>2</sub>	H	
495		B-2	H		
496		B-2	H		
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499		B-1-a			
500		B-1-b			

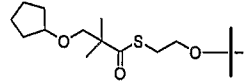
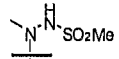
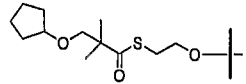
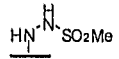
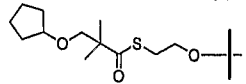
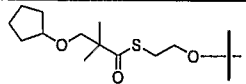
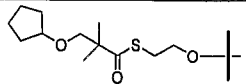
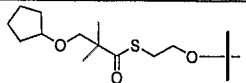
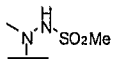
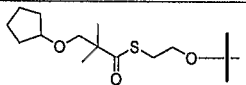
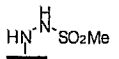
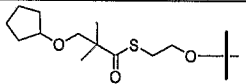
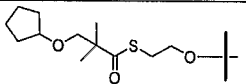
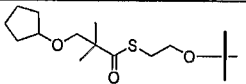
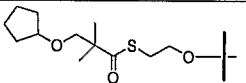
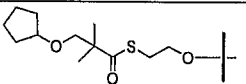
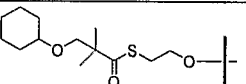
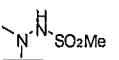
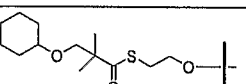
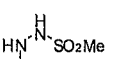
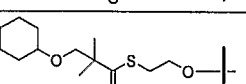
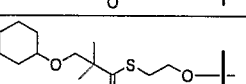
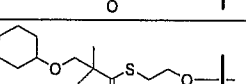
CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
501		B-3	H	NH <sub>2</sub>	H
502		B-2	NH <sub>2</sub>		
503		B-2	NH <sub>2</sub>		
504		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
505		B-2	NH <sub>2</sub>	OH	
506		B-2	NH <sub>2</sub>	H	
507		B-2	H		
508		B-2	H		
509		B-2	H	NH <sub>2</sub>	
510		B-2	H	OH	
511		B-1-a			
512		B-1-b			
513		B-3	H	NH <sub>2</sub>	H
514		B-2	NH <sub>2</sub>		
515		B-2	NH <sub>2</sub>		
516		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
517		B-2	NH <sub>2</sub>	OH	
518		B-2	NH <sub>2</sub>	H	
519		B-2	H		
520		B-2	H		

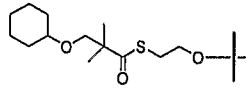
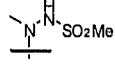
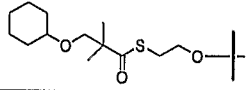
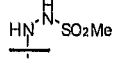
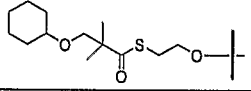
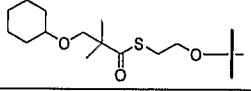
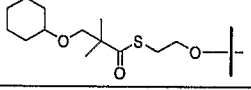
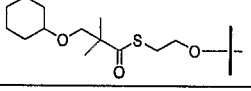
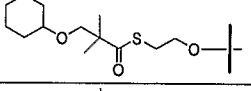
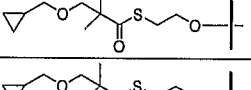
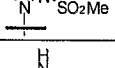
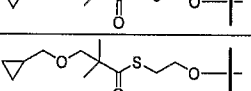
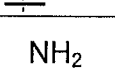
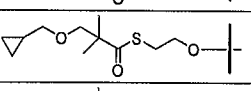
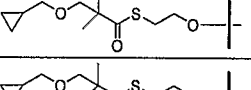
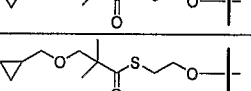
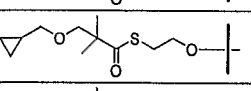
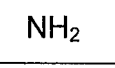
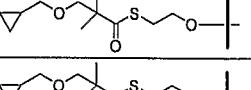
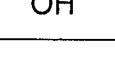
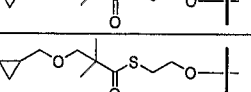
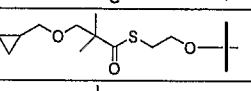
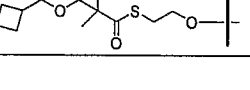




CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
521		B-2	H	NH <sub>2</sub>	
522		B-2	H	OH	
523		B-1-a			
524		B-1-b			
525		B-3	H	NH <sub>2</sub>	H
526		B-2	NH <sub>2</sub>		
527		B-2	NH <sub>2</sub>		
528		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
529		B-2	NH <sub>2</sub>	OH	
530		B-2	NH <sub>2</sub>	H	
531		B-2	H		
532		B-2	H		
533		B-2	H	NH <sub>2</sub>	
534		B-2	H	OH	
535		B-1-a			
536		B-1-b			
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538		B-2	NH <sub>2</sub>		
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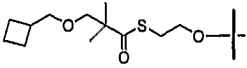
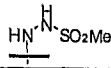
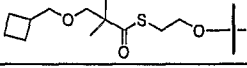
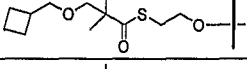
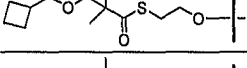
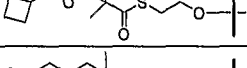
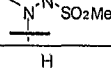
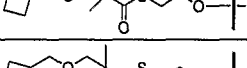
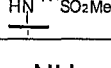
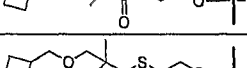
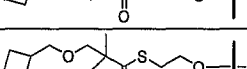
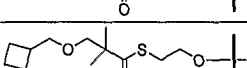
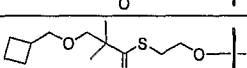
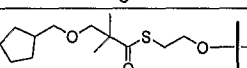
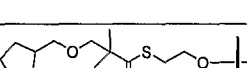
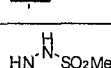
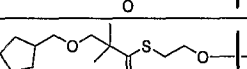
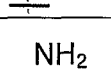
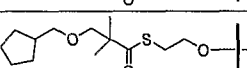
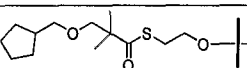
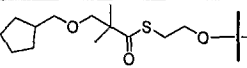
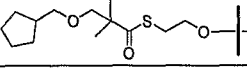
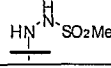
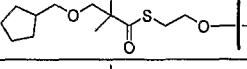
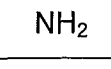
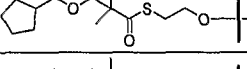
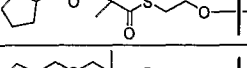
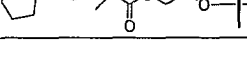

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
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541		B-2	NH <sub>2</sub>	OH	
542		B-2	NH <sub>2</sub>	H	
543		B-2	H		
544		B-2	H		
545		B-2	H	NH <sub>2</sub>	
546		B-2	H	OH	
547		B-1-a			
548		B-1-b			
549		B-3	H	NH <sub>2</sub>	H
550		B-2	NH <sub>2</sub>		
551		B-2	NH <sub>2</sub>		
552		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
553		B-2	NH <sub>2</sub>	OH	
554		B-2	NH <sub>2</sub>	H	
555		B-2	H		
556		B-2	H		
567		B-2	H	NH <sub>2</sub>	
558		B-2	H	OH	

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
559		B-1-a			
560		B-1-b			
561		B-3	H	NH <sub>2</sub>	H
562		B-2	NH <sub>2</sub>		
563		B-2	NH <sub>2</sub>		
564		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
565		B-2	NH <sub>2</sub>	OH	
566		B-2	NH <sub>2</sub>	H	
567		B-2	H		
568		B-2	H		
569		B-2	H	NH <sub>2</sub>	
570		B-2	H	OH	
571		B-1-a			
572		B-1-b			
573		B-3	H	NH <sub>2</sub>	H
574		B-2	NH <sub>2</sub>		
575		B-2	NH <sub>2</sub>		
576		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
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578		B-2	NH <sub>2</sub>	H	

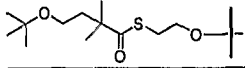
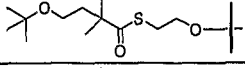
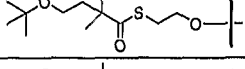
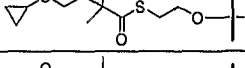
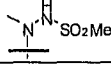
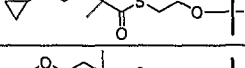
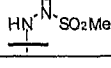
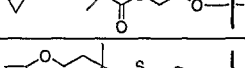
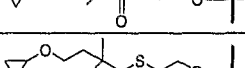
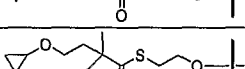
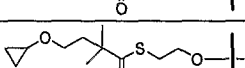
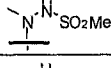
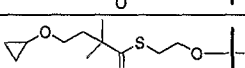
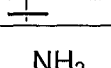
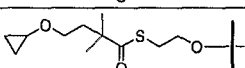
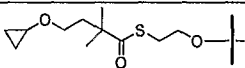
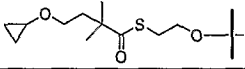
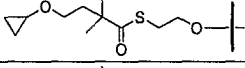
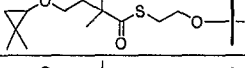
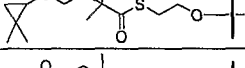
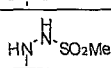
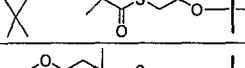
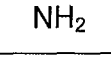
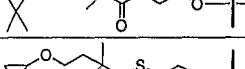
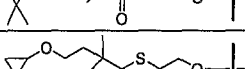
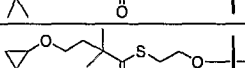
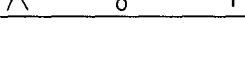
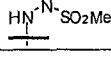


CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
579		B-2	H		
580		B-2	H		
581		B-2	H	NH <sub>2</sub>	
582		B-2	H	OH	
583		B-1-a			
584		B-1-b			
585		B-3	H	NH <sub>2</sub>	H
586		B-2	NH <sub>2</sub>		
587		B-2	NH <sub>2</sub>		
588		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
589		B-2	NH <sub>2</sub>	OH	
590		B-2	NH <sub>2</sub>	H	
591		B-2	H		
592		B-2	H		
593		B-2	H	NH <sub>2</sub>	
594		B-2	H	OH	
595		B-1-a			
596		B-1-b			
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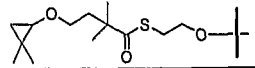
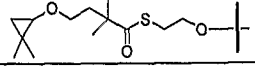
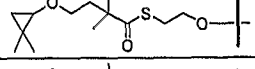
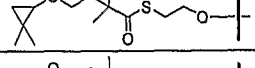
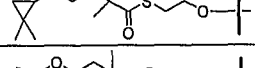
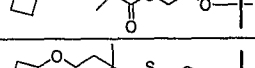
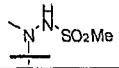
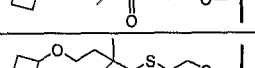
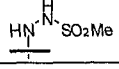
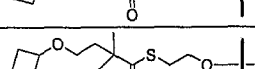
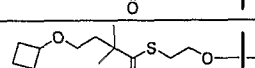
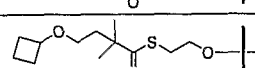
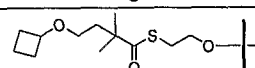
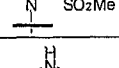
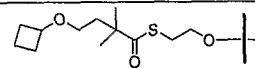
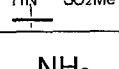
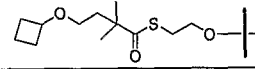
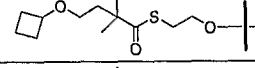
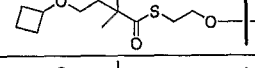
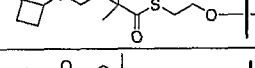
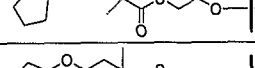
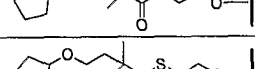
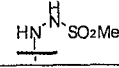
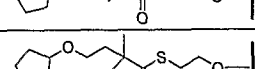
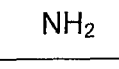
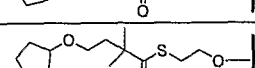
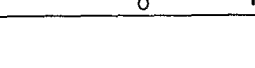

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
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600		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
601		B-2	NH <sub>2</sub>	OH	
602		B-2	NH <sub>2</sub>	H	
603		B-2	H		
604		B-2	H		
605		B-2	H	NH <sub>2</sub>	
606		B-2	H	OH	
607		B-1-a			
608		B-1-b			
609		B-3	H	NH <sub>2</sub>	H
610		B-2	NH <sub>2</sub>		
611		B-2	NH <sub>2</sub>		
612		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
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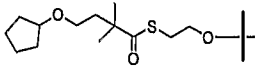
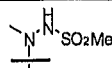
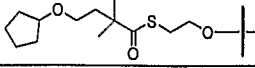
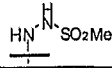
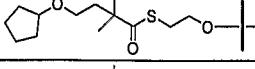
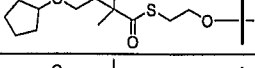
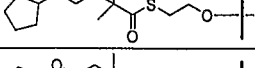
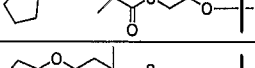
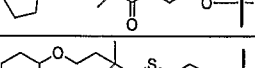
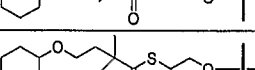
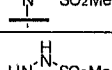
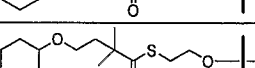
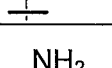
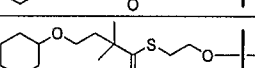
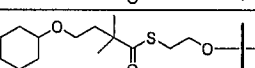
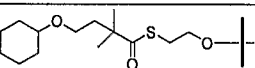
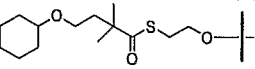
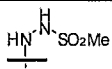
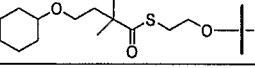
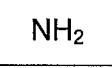
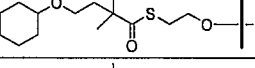
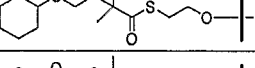
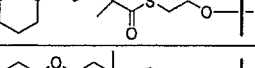
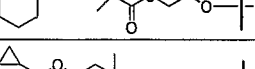
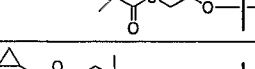
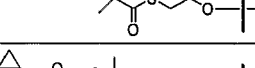
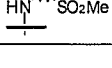
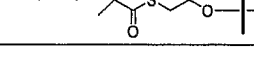
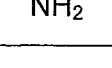

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
615		B-2	H		
616		B-2	H		
617		B-2	H	NH <sub>2</sub>	
618		B-2	H	OH	
619		B-1-a			
620		B-1-b			
621		B-3	H	NH <sub>2</sub>	H
622		B-2	NH <sub>2</sub>		
623		B-2	NH <sub>2</sub>		
624		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
625		B-2	NH <sub>2</sub>	OH	
626		B-2	NH <sub>2</sub>	H	
627		B-2	H		
628		B-2	H		
629		B-2	H	NH <sub>2</sub>	
630		B-2	H	OH	
631		B-1-a			
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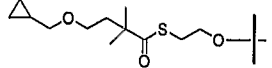
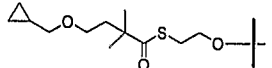
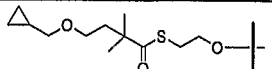
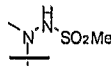
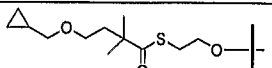
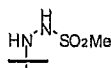
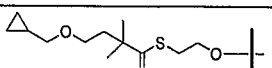
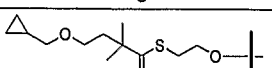
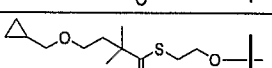
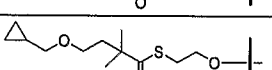
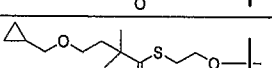
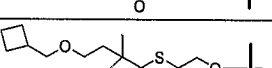
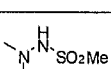
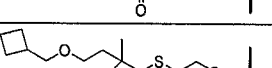
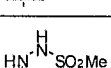
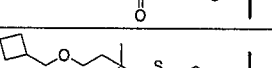
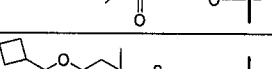
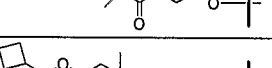
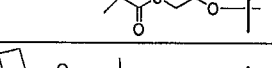
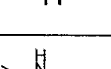
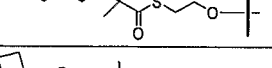
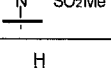
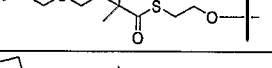
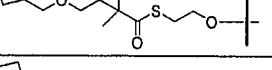
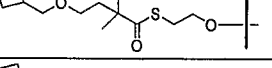
CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
635		B-2	NH <sub>2</sub>		
636		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
637		B-2	NH <sub>2</sub>	OH	
638		B-2	NH <sub>2</sub>	H	
639		B-2	H		
640		B-2	H		
641		B-2	H	NH <sub>2</sub>	
642		B-2	H	OH	
643		B-1-a			
644		B-1-b			
645		B-3	H	NH <sub>2</sub>	H
646		B-2	NH <sub>2</sub>		
647		B-2	NH <sub>2</sub>		
648		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
649		B-2	NH <sub>2</sub>	OH	
650		B-2	NH <sub>2</sub>	H	
651		B-2	H		
652		B-2	H		
653		B-2	H	NH <sub>2</sub>	
654		B-2	H	OH	
655		B-1-a			
656		B-1-b			

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
667		B-3	H	NH <sub>2</sub>	H
658		B-2	NH <sub>2</sub>		
659		B-2	NH <sub>2</sub>		
660		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
661		B-2	NH <sub>2</sub>	OH	
662		B-2	NH <sub>2</sub>	H	
663		B-2	H		
664		B-2	H		
665		B-2	H	NH <sub>2</sub>	
666		B-2	H	OH	
667		B-1-a			
668		B-1-b			
669		B-3	H	NH <sub>2</sub>	H
670		B-2	NH <sub>2</sub>		
671		B-2	NH <sub>2</sub>		
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673		B-2	NH <sub>2</sub>	OH	
674		B-2	NH <sub>2</sub>	H	
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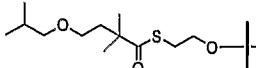
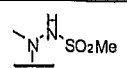
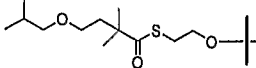
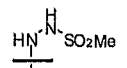
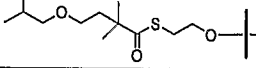
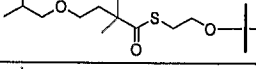
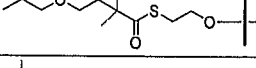
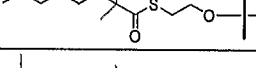
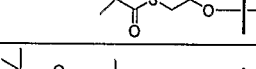
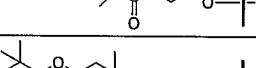
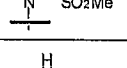
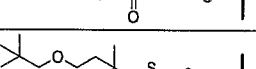
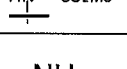
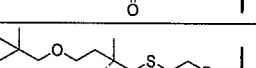
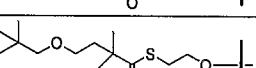
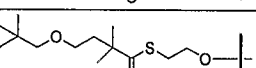
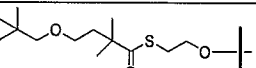
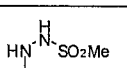
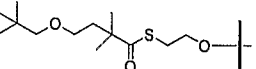
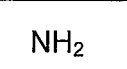
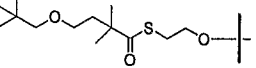
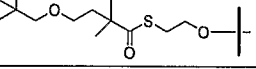
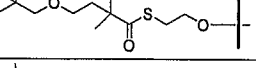
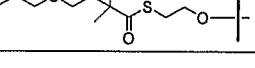

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
679		B-1-a			
680		B-1-b			
681		B-3	H	NH <sub>2</sub>	H
682		B-2	NH <sub>2</sub>		
683		B-2	NH <sub>2</sub>		
684		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
685		B-2	NH <sub>2</sub>	OH	
686		B-2	NH <sub>2</sub>	H	
687		B-2	H		
688		B-2	H		
689		B-2	H	NH <sub>2</sub>	
690		B-2	H	OH	
691		B-1-a			
692		B-1-b			
693		B-3	H	NH <sub>2</sub>	H
694		B-2	NH <sub>2</sub>		
695		B-2	NH <sub>2</sub>		
696		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
697		B-2	NH <sub>2</sub>	OH	
698		B-2	NH <sub>2</sub>	H	
699		B-2	H		
700		B-2	H		

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
701		B-2	H	NH <sub>2</sub>	
702		B-2	H	OH	
703		B-1-a			
704		B-1-b			
705		B-3	H	NH <sub>2</sub>	H
706		B-2	NH <sub>2</sub>		
707		B-2	NH <sub>2</sub>		
708		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
709		B-2	NH <sub>2</sub>	OH	
710		B-2	NH <sub>2</sub>	H	
711		B-2	H		
712		B-2	H		
713		B-2	H	NH <sub>2</sub>	
714		B-2	H	OH	
715		B-1-a			
716		B-1-b			
717		B-3	H	NH <sub>2</sub>	H
718		B-2	NH <sub>2</sub>		
719		B-2	NH <sub>2</sub>		
720		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
721		B-2	NH <sub>2</sub>	OH	
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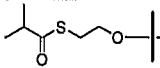
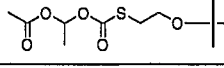
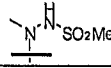
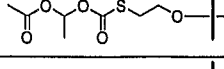
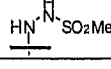
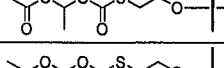
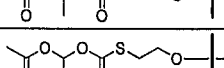
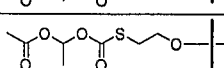
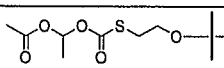
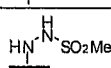
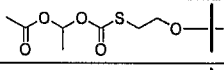
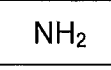
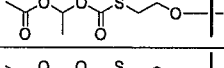
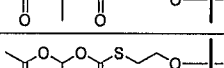
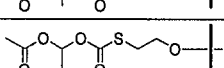
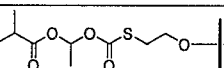
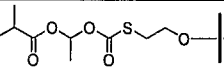
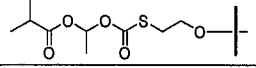
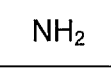
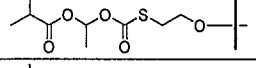
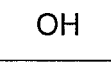
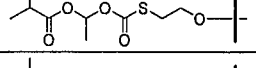
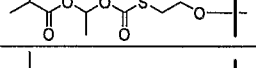
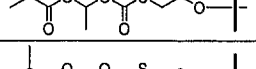
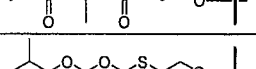
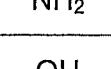
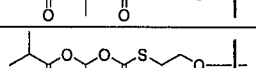
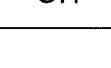
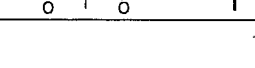


CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
723		B-2	H		
724		B-2	H		
725		B-2	H	NH <sub>2</sub>	
726		B-2	H	OH	
727		B-1-a			
728		B-1-b			
729		B-3	H	NH <sub>2</sub>	H
730		B-2	NH <sub>2</sub>		
731		B-2	NH <sub>2</sub>		
732		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
733		B-2	NH <sub>2</sub>	OH	
734		B-2	NH <sub>2</sub>	H	
735		B-2	H		
736		B-2	H		
737		B-2	H	NH <sub>2</sub>	
738		B-2	H	OH	
739		B-1-a			
740		B-1-b			
741		B-3	H	NH <sub>2</sub>	H
742		B-2	NH <sub>2</sub>		
743		B-2	NH <sub>2</sub>		
744		B-2	NH <sub>2</sub>	NH <sub>2</sub>	

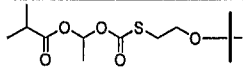
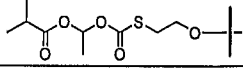
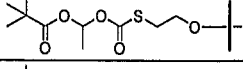
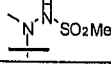
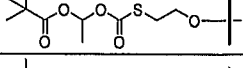
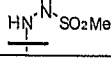
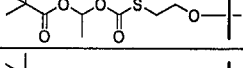
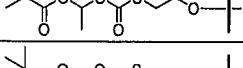
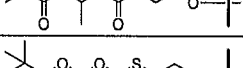
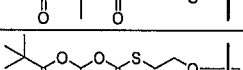
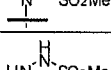
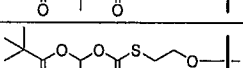
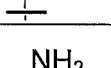
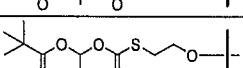
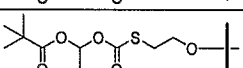
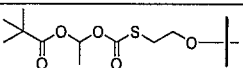
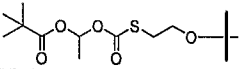
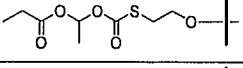
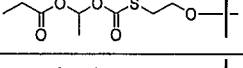
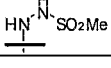
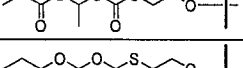
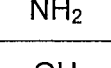
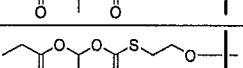
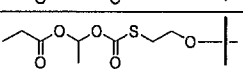
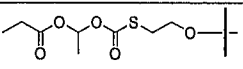
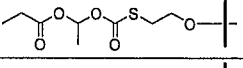
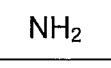
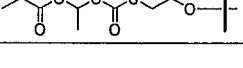
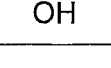


CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
745		B-2	NH <sub>2</sub>	OH	
746		B-2	NH <sub>2</sub>	H	
747		B-2	H		
748		B-2	H		
749		B-2	H	NH <sub>2</sub>	
750		B-2	H	OH	
751		B-1-a			
752		B-1-b			
753		B-3	H	NH <sub>2</sub>	H
754		B-2	NH <sub>2</sub>		
755		B-2	NH <sub>2</sub>		
756		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
767		B-2	NH <sub>2</sub>	OH	
758		B-2	NH <sub>2</sub>	H	
759		B-2	H		
760		B-2	H		
761		B-2	H	NH <sub>2</sub>	
762		B-2	H	OH	
763		B-1-a			

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
764		B-1-b			
765		B-3	H	NH <sub>2</sub>	H
766		B-2	NH <sub>2</sub>		
767		B-2	NH <sub>2</sub>		
768		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
769		B-2	NH <sub>2</sub>	OH	
770		B-2	NH <sub>2</sub>	H	
771		B-2	H		
772		B-2	H		
773		B-2	H	NH <sub>2</sub>	
774		B-2	H	OH	
775		B-1-a			
776		B-1-b			
777		B-3	H	NH <sub>2</sub>	H
778		B-2	NH <sub>2</sub>		
779		B-2	NH <sub>2</sub>		
780		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
781		B-2	NH <sub>2</sub>	OH	
782		B-2	NH <sub>2</sub>	H	

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
783		B-2	H		
784		B-2	H		
785		B-2	H	NH <sub>2</sub>	
786		B-2	H	OH	
787		B-1-a			
788		B-1-b			
789		B-3	H	NH <sub>2</sub>	H
790		B-2	NH <sub>2</sub>		
791		B-2	NH <sub>2</sub>		
792		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
793		B-2	NH <sub>2</sub>	OH	
794		B-2	NH <sub>2</sub>	H	
795		B-2	H		
796		B-2	H		
797		B-2	H	NH <sub>2</sub>	
798		B-2	H	OH	
799		B-1-a			
800		B-1-b			
801		B-3	H	NH <sub>2</sub>	H

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
802		B-2	NH <sub>2</sub>		
803		B-2	NH <sub>2</sub>		
804		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
805		B-2	NH <sub>2</sub>	OH	
806		B-2	NH <sub>2</sub>	H	
807		B-2	H		
808		B-2	H		
809		B-2	H	NH <sub>2</sub>	
810		B-2	H	OH	
811		B-1-a			
812		B-1-b			
813		B-3	H	NH <sub>2</sub>	H
814		B-2	NH <sub>2</sub>		
815		B-2	NH <sub>2</sub>		
816		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
817		B-2	NH <sub>2</sub>	OH	
818		B-2	NH <sub>2</sub>	H	
819		B-2	H		
820		B-2	H		
821		B-2	H	NH <sub>2</sub>	
822		B-2	H	OH	
823		B-1-a			
824		B-1-b			

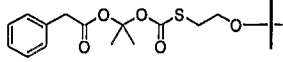
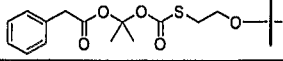
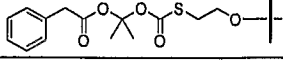
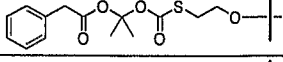
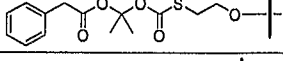
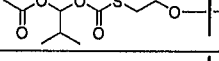
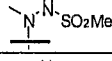
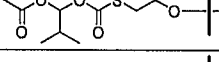
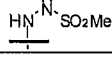
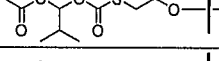
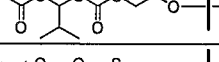
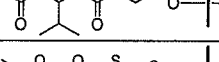
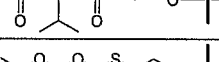
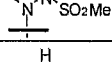
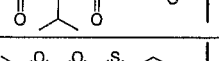
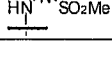
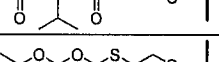
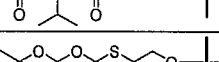
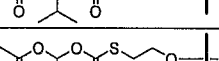
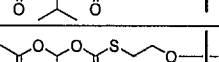
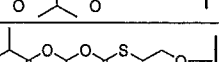
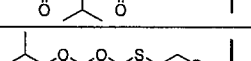
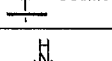
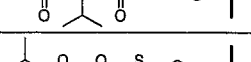
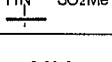
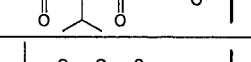
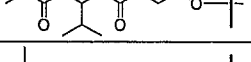
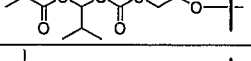
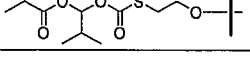
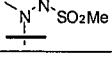
CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
825		B-3	H	NH <sub>2</sub>	H
826		B-2	NH <sub>2</sub>		
827		B-2	NH <sub>2</sub>		
828		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
829		B-2	NH <sub>2</sub>	OH	
830		B-2	NH <sub>2</sub>	H	
831		B-2	H		
832		B-2	H		
833		B-2	H	NH <sub>2</sub>	
834		B-2	H	OH	
835		B-1-a			
836		B-1-b			
837		B-3	H	NH <sub>2</sub>	H
838		B-2	NH <sub>2</sub>		
839		B-2	NH <sub>2</sub>		
840		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
841		B-2	NH <sub>2</sub>	OH	
842		B-2	NH <sub>2</sub>	H	
843		B-2	H		
844		B-2	H		
845		B-2	H	NH <sub>2</sub>	
846		B-2	H	OH	
847		B-1-a			

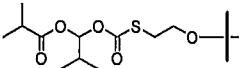
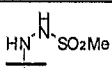
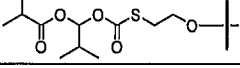
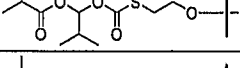
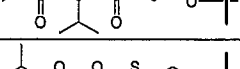
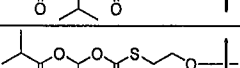
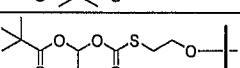
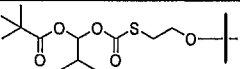
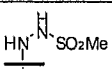
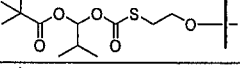
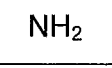
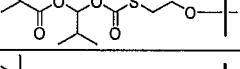
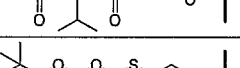
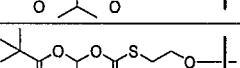
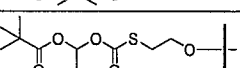
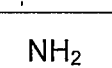
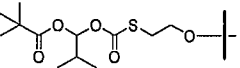
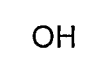
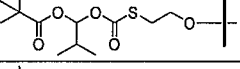
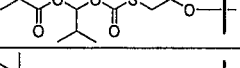
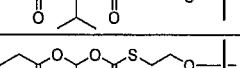
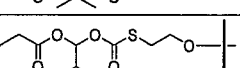
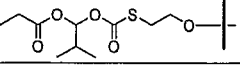





CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
848		B-1-b			
849		B-3	H	NH <sub>2</sub>	H
850		B-2	NH <sub>2</sub>		
851		B-2	NH <sub>2</sub>		
852		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
853		B-2	NH <sub>2</sub>	OH	
854		B-2	NH <sub>2</sub>	H	
855		B-2	H		
856		B-2	H		
867		B-2	H	NH <sub>2</sub>	
858		B-2	H	OH	
859		B-1-a			
860		B-1-b			
861		B-3	H	NH <sub>2</sub>	H
862		B-2	NH <sub>2</sub>		
863		B-2	NH <sub>2</sub>		
864		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
865		B-2	NH <sub>2</sub>	OH	
866		B-2	NH <sub>2</sub>	H	
867		B-2	H		
868		B-2	H		
869		B-2	H	NH <sub>2</sub>	
870		B-2	H	OH	

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
871		B-1-a			
872		B-1-b			
873		B-3	H	NH <sub>2</sub>	H
874		B-2	NH <sub>2</sub>		
875		B-2	NH <sub>2</sub>		
876		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
877		B-2	NH <sub>2</sub>	OH	
878		B-2	NH <sub>2</sub>	H	
879		B-2	H		
880		B-2	H		
881		B-2	H	NH <sub>2</sub>	
882		B-2	H	OH	
883		B-1-a			
884		B-1-b			
885		B-3	H	NH <sub>2</sub>	H
886		B-2	NH <sub>2</sub>		
887		B-2	NH <sub>2</sub>		
888		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
889		B-2	NH <sub>2</sub>	OH	
890		B-2	NH <sub>2</sub>	H	
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892		B-2	H		
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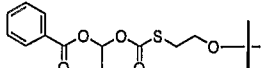
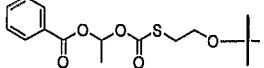
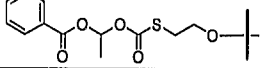
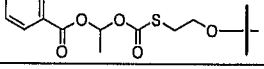
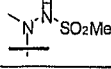
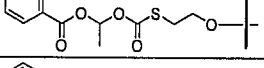
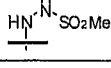
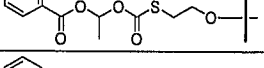
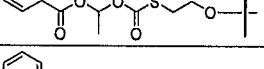
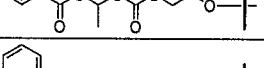
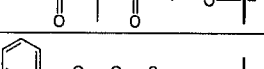
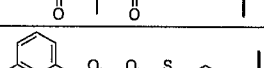
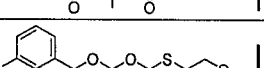
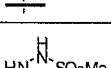
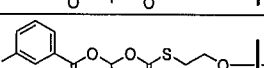
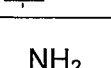
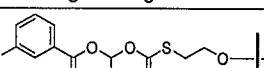
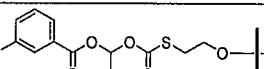
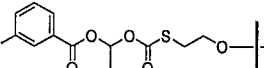
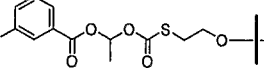
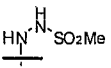
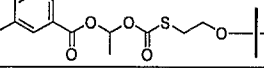
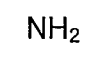
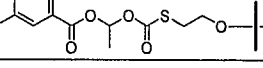

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
895		B-1-a			
896		B-1-b			
897		B-3	H	NH <sub>2</sub>	H
898		B-2	NH <sub>2</sub>		
899		B-2	NH <sub>2</sub>		
900		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
901		B-2	NH <sub>2</sub>	OH	
902		B-2	NH <sub>2</sub>	H	
903		B-2	H		
904		B-2	H		
905		B-2	H	NH <sub>2</sub>	
906		B-2	H	OH	
907		B-1-a			
908		B-1-b			
909		B-3	H	NH <sub>2</sub>	H
910		B-2	NH <sub>2</sub>		
911		B-2	NH <sub>2</sub>		
912		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
913		B-2	NH <sub>2</sub>	OH	
914		B-2	NH <sub>2</sub>	H	
915		B-2	H		
916		B-2	H		
917		B-2	H	NH <sub>2</sub>	

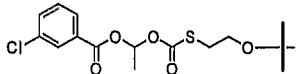
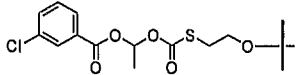
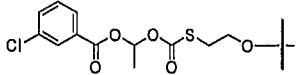
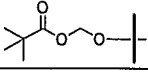
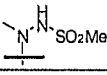
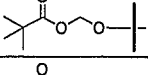
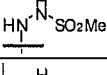
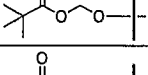
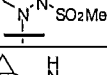
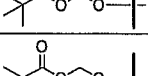
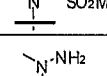
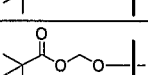

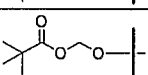

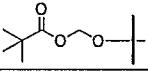

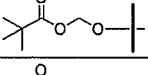
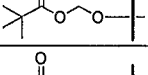
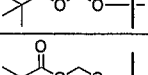
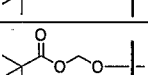
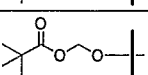
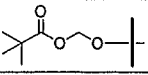
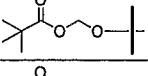
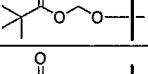
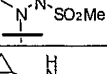
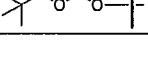
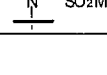




CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
918		B-2	H	OH	
919		B-1-a			
920		B-1-b			
921		B-3	H	NH <sub>2</sub>	H
922		B-2	NH <sub>2</sub>		
923		B-2	NH <sub>2</sub>		
924		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
925		B-2	NH <sub>2</sub>	OH	
926		B-2	NH <sub>2</sub>	H	
927		B-2	H		
928		B-2	H		
929		B-2	H	NH <sub>2</sub>	
930		B-2	H	OH	
931		B-1-a			
932		B-1-b			
933		B-3	H	NH <sub>2</sub>	H
934		B-2	NH <sub>2</sub>		
935		B-2	NH <sub>2</sub>		
936		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
937		B-2	NH <sub>2</sub>	OH	
938		B-2	NH <sub>2</sub>	H	
939		B-2	H		
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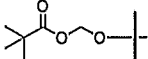

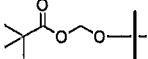

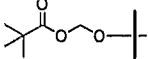

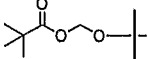
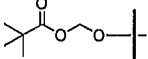
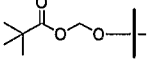
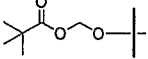
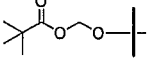
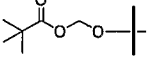
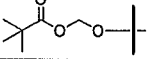
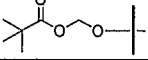
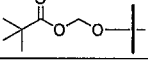
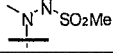
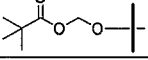
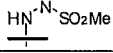
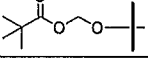
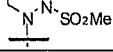
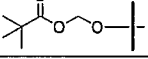
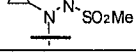
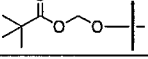

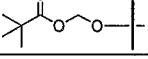

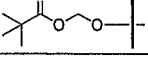
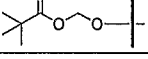
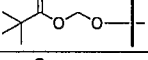
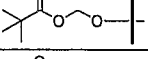
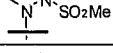
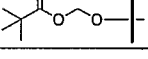
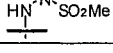
CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
941		B-2	H	NH <sub>2</sub>	
942		B-2	H	OH	
943		B-1-a			
944		B-1-b			
945		B-3	H	NH <sub>2</sub>	H
946		B-2	NH <sub>2</sub>		
947		B-2	NH <sub>2</sub>		
948		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
949		B-2	NH <sub>2</sub>	OH	
950		B-2	NH <sub>2</sub>	H	
951		B-2	H		
952		B-2	H		
953		B-2	H	NH <sub>2</sub>	
954		B-2	H	OH	
955		B-1-a			
956		B-1-b			
967		B-3	H	NH <sub>2</sub>	H
958		B-2	NH <sub>2</sub>		
959		B-2	NH <sub>2</sub>		
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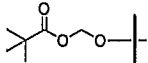
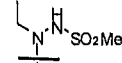
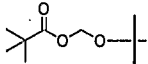
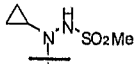
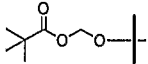

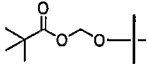

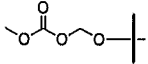
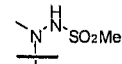
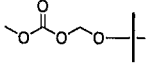
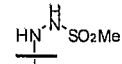
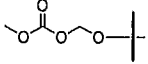
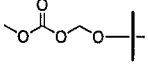
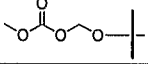
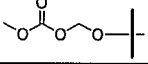
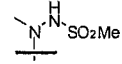
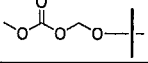
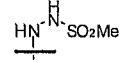
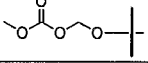
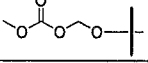
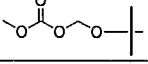
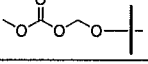
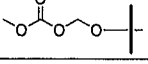
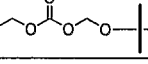
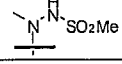
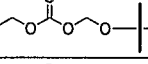
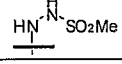
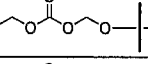
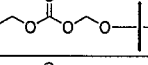
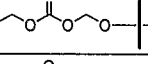
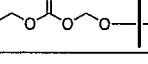
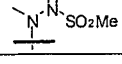
CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
964		B-2	H		
965		B-2	H	NH <sub>2</sub>	
966		B-2	H	OH	
967		B-1-a			
968		B-1-b			
969		B-3	H	NH <sub>2</sub>	H
970		B-2	NH <sub>2</sub>		
971		B-2	NH <sub>2</sub>		
972		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
973		B-2	NH <sub>2</sub>	OH	
974		B-2	NH <sub>2</sub>	H	
975		B-2	H		
976		B-2	H		
977		B-2	H	NH <sub>2</sub>	
978		B-2	H	OH	
979		B-1-a			
980		B-1-b			
981		B-3	H	NH <sub>2</sub>	H
982		B-2	NH <sub>2</sub>		
983		B-2	NH <sub>2</sub>		
984		B-2	NH <sub>2</sub>	NH <sub>2</sub>	

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
985		B-2	NH <sub>2</sub>	OH	
986		B-2	NH <sub>2</sub>	H	
987		B-2	H		
988		B-2	H		
989		B-2	H	NH <sub>2</sub>	
990		B-2	H	OH	
991		B-1-a			
992		B-1-b			
993		B-3	H	NH <sub>2</sub>	H
994		B-2	NH <sub>2</sub>		
995		B-2	NH <sub>2</sub>		
996		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
997		B-2	NH <sub>2</sub>	OH	
998		B-2	NH <sub>2</sub>	H	
999		B-2	H		
1000		B-2	H		
1001		B-2	H	NH <sub>2</sub>	
1002		B-2	H	OH	
1003		B-1-a			
1004		B-1-b			
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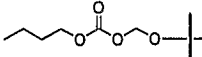
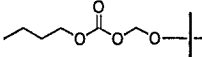
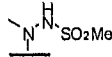
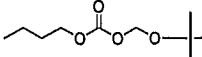
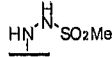
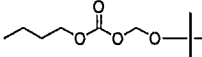
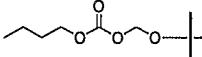
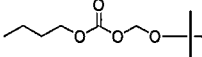
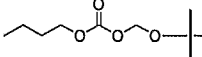
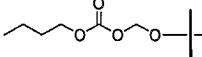
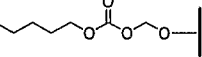
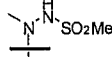
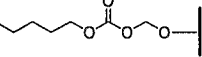
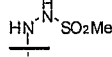
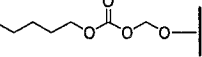
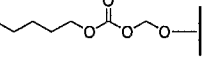
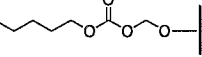
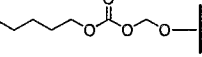
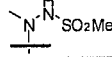
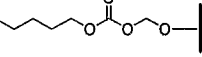
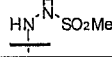
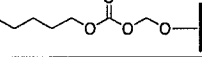
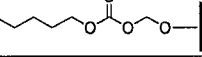
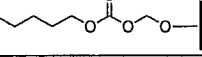
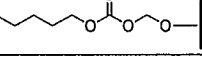
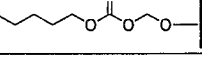
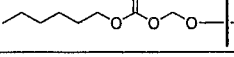
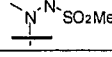
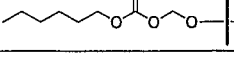
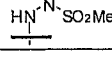
CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
1008		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1009		B-2	NH <sub>2</sub>	OH	
1010		B-2	NH <sub>2</sub>	H	
1011		B-2	H		
1012		B-2	H		
1013		B-2	H	NH <sub>2</sub>	
1014		B-2	H	OH	
1015		B-1-a			
1016		B-1-b			
1017		B-3	H	NH <sub>2</sub>	H
1018		B-2	NH <sub>2</sub>		
1019		B-2	NH <sub>2</sub>		
1020		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1021		B-2	NH <sub>2</sub>	OH	
1022		B-2	NH <sub>2</sub>	H	
1023		B-2	H		
1024		B-2	H		
1025		B-2	H	NH <sub>2</sub>	
1026		B-2	H	OH	

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
1027		B-1-a			
1028		B-1-b			
1029		B-3	H	NH <sub>2</sub>	H
1030		B-2	NH <sub>2</sub>		
1031		B-2	NH <sub>2</sub>		
1032		B-2	NH <sub>2</sub>		
1033		B-2	NH <sub>2</sub>		
1034		B-2	NH <sub>2</sub>		
1035		B-2	NH <sub>2</sub>		
1036		B-2	NH <sub>2</sub>		
1037		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1038		B-2	NH <sub>2</sub>	OH	
1039		B-2	NH <sub>2</sub>	NHMe	
1040		B-2	NH <sub>2</sub>	OMe	
1041		B-2	NH <sub>2</sub>	OEt	
1042		B-2	NH <sub>2</sub>	SMe	
1043		B-2	NH <sub>2</sub>	H	
1044		B-2	H		
1045		B-2	H		
1046		B-2	H		
1047		B-2	H		

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
1048		B-2	H		
1049		B-2	H		
1050		B-2	H		
1051		B-2	H	NH <sub>2</sub>	
1052		B-2	H	OH	
1053		B-2	H	NHMe	
1054		B-2	H	OMe	
1055		B-2	H	OEt	
1056		B-2	H	SMe	
1067		B-1-a			
1058		B-1-b			
1059		B-3	NH <sub>2</sub>		H
1060		B-3	NH <sub>2</sub>		H
1061		B-3	NH <sub>2</sub>		H
1062		B-3	NH <sub>2</sub>		H
1063		B-3	NH <sub>2</sub>		H
1064		B-3	NH <sub>2</sub>		H
1065		B-3	H	NH <sub>2</sub>	CN
1066		B-3	H	NH <sub>2</sub>	H
1067		B-3	H	NH <sub>2</sub>	F
1068		B-3	H		H
1069		B-3	H		H

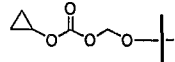
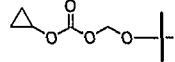
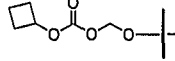
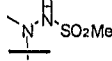
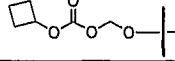
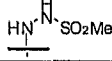
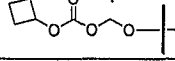
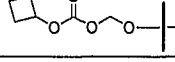
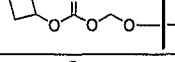
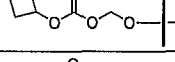
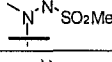
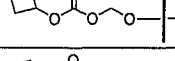
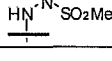
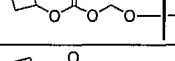
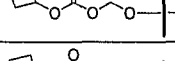
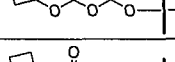
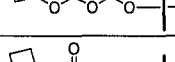
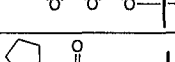
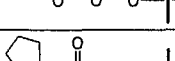
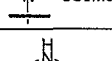
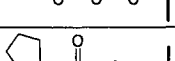
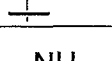
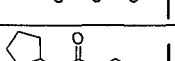
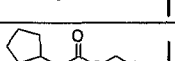
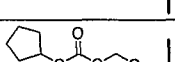
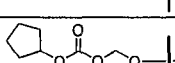
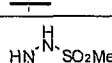
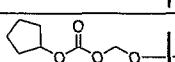
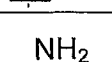

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
1070		B-3	H		H
1071		B-3	H		H
1072		B-3	H		H
1073		B-3	H		H
1074		B-2	NH <sub>2</sub>		
1075		B-2	NH <sub>2</sub>		
1076		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1077		B-2	NH <sub>2</sub>	OH	
1078		B-2	NH <sub>2</sub>	H	
1079		B-2	H		
1080		B-2	H		
1081		B-2	H	NH <sub>2</sub>	
1082		B-2	H	OH	
1083		B-1-a			
1084		B-1-b			
1085		B-3	H	NH <sub>2</sub>	H
1086		B-2	NH <sub>2</sub>		
1087		B-2	NH <sub>2</sub>		
1088		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1089		B-2	NH <sub>2</sub>	OH	
1090		B-2	NH <sub>2</sub>	H	
1091		B-2	H		

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
1092		B-2	H		
1093		B-2	H	NH <sub>2</sub>	
1094		B-2	H	OH	
1095		B-1-a			
1096		B-1-b			
1097		B-3	H	NH <sub>2</sub>	H
1098		B-2	NH <sub>2</sub>		
1099		B-2	NH <sub>2</sub>		
1100		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1101		B-2	NH <sub>2</sub>	OH	
1102		B-2	NH <sub>2</sub>	H	
1103		B-2	H		
1104		B-2	H		
1105		B-2	H	NH <sub>2</sub>	
1106		B-2	H	OH	
1107		B-1-a			
1108		B-1-b			
1109		B-3	H	NH <sub>2</sub>	H
1110		B-2	NH <sub>2</sub>		
1111		B-2	NH <sub>2</sub>		
1112		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1113		B-2	NH <sub>2</sub>	OH	

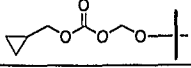
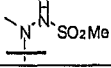
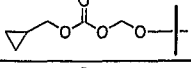
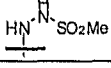
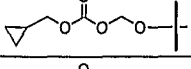
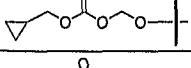
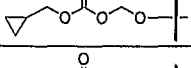
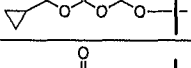
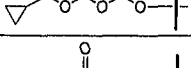
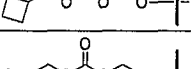
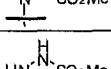
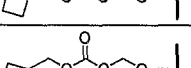
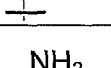
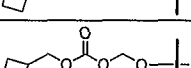
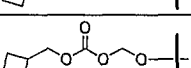
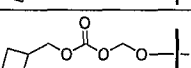
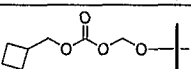
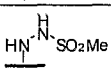
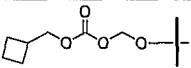
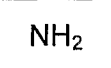
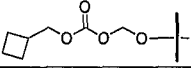
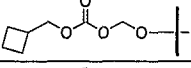
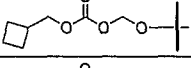
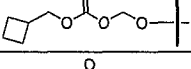
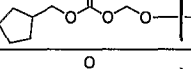
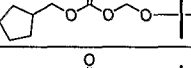
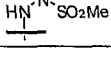
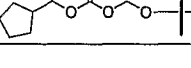
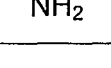

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
1114		B-2	NH <sub>2</sub>	H	
1115		B-2	H		
1116		B-2	H		
1117		B-2	H	NH <sub>2</sub>	
1118		B-2	H	OH	
1119		B-1-a			
1120		B-1-b			
1121		B-3	H	NH <sub>2</sub>	H
1122		B-2	NH <sub>2</sub>		
1123		B-2	NH <sub>2</sub>		
1124		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1125		B-2	NH <sub>2</sub>	OH	
1126		B-2	NH <sub>2</sub>	H	
1127		B-2	H		
1128		B-2	H		
1129		B-2	H	NH <sub>2</sub>	
1130		B-2	H	OH	
1131		B-1-a			
1132		B-1-b			
1133		B-3	H	NH <sub>2</sub>	H
1134		B-2	NH <sub>2</sub>		
1135		B-2	NH <sub>2</sub>		

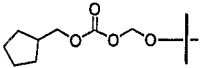
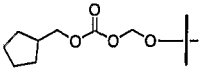
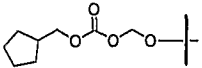
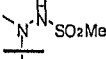
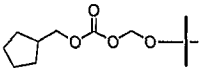
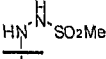
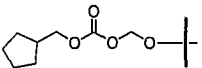
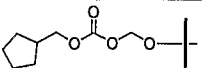
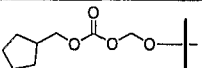
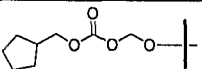
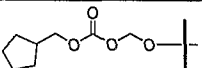
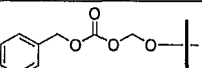
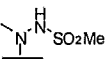
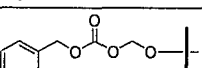
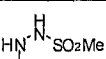
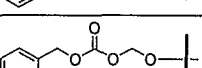
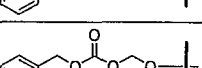
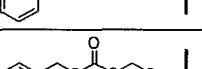
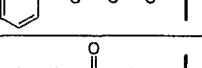
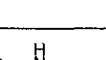
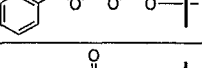
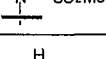
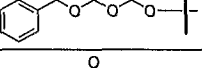
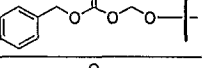
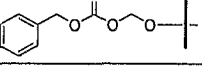
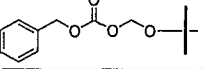
CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
1136		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1137		B-2	NH <sub>2</sub>	OH	
1138		B-2	NH <sub>2</sub>	H	
1139		B-2	H		
1140		B-2	H		
1141		B-2	H	NH <sub>2</sub>	
1142		B-2	H	OH	
1143		B-1-a			
1144		B-1-b			
1145		B-3	H	NH <sub>2</sub>	H
1146		B-2	NH <sub>2</sub>		
1147		B-2	NH <sub>2</sub>		
1148		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1149		B-2	NH <sub>2</sub>	OH	
1150		B-2	NH <sub>2</sub>	H	
1151		B-2	H		
1152		B-2	H		
1153		B-2	H	NH <sub>2</sub>	
1154		B-2	H	OH	
1155		B-1-a			
1156		B-1-b			
1167		B-3	H	NH <sub>2</sub>	H

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
1158		B-2	NH <sub>2</sub>		
1159		B-2	NH <sub>2</sub>		
1160		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1161		B-2	NH <sub>2</sub>	OH	
1162		B-2	NH <sub>2</sub>	H	
1163		B-2	H		
1164		B-2	H		
1165		B-2	H	NH <sub>2</sub>	
1166		B-2	H	OH	
1167		B-1-a			
1168		B-1-b			
1169		B-3	H	NH <sub>2</sub>	H
1170		B-2	NH <sub>2</sub>		
1171		B-2	NH <sub>2</sub>		
1172		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1173		B-2	NH <sub>2</sub>	OH	
1174		B-2	NH <sub>2</sub>	H	
1175		B-2	H		
1176		B-2	H		
1177		B-2	H	NH <sub>2</sub>	
1178		B-2	H	OH	
1179		B-1-a			

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
1180		B-1-b			
1181		B-3	H	NH <sub>2</sub>	H
1182		B-2	NH <sub>2</sub>		
1183		B-2	NH <sub>2</sub>		
1184		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1185		B-2	NH <sub>2</sub>	OH	
1186		B-2	NH <sub>2</sub>	H	
1187		B-2	H		
1188		B-2	H		
1189		B-2	H	NH <sub>2</sub>	
1190		B-2	H	OH	
1191		B-1-a			
1192		B-1-b			
1193		B-3	H	NH <sub>2</sub>	H
1194		B-2	NH <sub>2</sub>		
1195		B-2	NH <sub>2</sub>		
1196		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1197		B-2	NH <sub>2</sub>	OH	
1198		B-2	NH <sub>2</sub>	H	
1199		B-2	H		
1200		B-2	H		
1201		B-2	H	NH <sub>2</sub>	

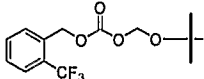
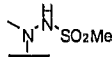
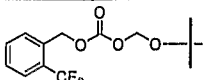
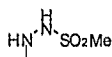
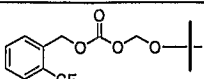
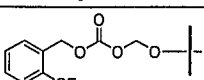
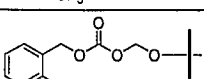
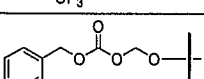
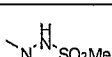
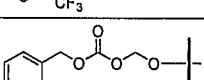
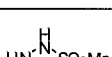
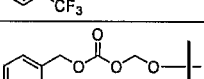
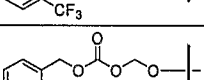
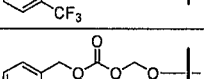
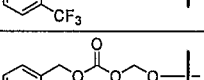
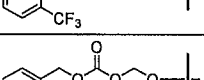
CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
1202		B-2	H	OH	
1203		B-1-a			
1204		B-1-b			
1205		B-3	H	NH <sub>2</sub>	H
1206		B-2	NH <sub>2</sub>		
1207		B-2	NH <sub>2</sub>		
1208		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1209		B-2	NH <sub>2</sub>	OH	
1210		B-2	NH <sub>2</sub>	H	
1211		B-2	H		
1212		B-2	H		
1213		B-2	H	NH <sub>2</sub>	
1214		B-2	H	OH	
1215		B-1-a			
1216		B-1-b			
1217		B-3	H	NH <sub>2</sub>	H
1218		B-2	NH <sub>2</sub>		
1219		B-2	NH <sub>2</sub>		
1220		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1221		B-2	NH <sub>2</sub>	OH	
1222		B-2	NH <sub>2</sub>	H	

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
1223		B-2	H		
1224		B-2	H		
1225		B-2	H	NH <sub>2</sub>	
1226		B-2	H	OH	
1227		B-1-a			
1228		B-1-b			
1229		B-3	H	NH <sub>2</sub>	H
1230		B-2	NH <sub>2</sub>		
1231		B-2	NH <sub>2</sub>		
1232		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1233		B-2	NH <sub>2</sub>	OH	
1234		B-2	NH <sub>2</sub>	H	
1235		B-2	H		
1236		B-2	H		
1237		B-2	H	NH <sub>2</sub>	
1238		B-2	H	OH	
1239		B-1-a			
1240		B-1-b			
1241		B-3	H	NH <sub>2</sub>	H
1242		B-2	NH <sub>2</sub>		
1243		B-2	NH <sub>2</sub>		
1244		B-2	NH <sub>2</sub>	NH <sub>2</sub>	

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
1245		B-2	NH <sub>2</sub>	OH	
1246		B-2	NH <sub>2</sub>	H	
1247		B-2	H		
1248		B-2	H		
1249		B-2	H	NH <sub>2</sub>	
1250		B-2	H	OH	
1251		B-1-a			
1252		B-1-b			
1253		B-3	H	NH <sub>2</sub>	H
1254		B-2	NH <sub>2</sub>		
1255		B-2	NH <sub>2</sub>		
1256		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1267		B-2	NH <sub>2</sub>	OH	
1258		B-2	NH <sub>2</sub>	H	
1259		B-2	H		
1260		B-2	H		
1261		B-2	H	NH <sub>2</sub>	
1262		B-2	H	OH	
1263		B-1-a			
1264		B-1-b			

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
1265		B-3	H	NH <sub>2</sub>	H
1266		B-2	NH <sub>2</sub>		
1267		B-2	NH <sub>2</sub>		
1268		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1269		B-2	NH <sub>2</sub>	OH	
1270		B-2	NH <sub>2</sub>	H	
1271		B-2	H		
1272		B-2	H		
1273		B-2	H	NH <sub>2</sub>	
1274		B-2	H	OH	
1275		B-1-a			
1276		B-1-b			
1277		B-3	H	NH <sub>2</sub>	H
1278		B-2	NH <sub>2</sub>		
1279		B-2	NH <sub>2</sub>		
1280		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1281		B-2	NH <sub>2</sub>	OH	
1282		B-2	NH <sub>2</sub>	H	
1283		B-2	H		

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
1284		B-2	H		
1285		B-2	H	NH <sub>2</sub>	
1286		B-2	H	OH	
1287		B-1-a			
1288		B-1-b			
1289		B-3	H	NH <sub>2</sub>	H
1290		B-2	NH <sub>2</sub>		
1291		B-2	NH <sub>2</sub>		
1292		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1293		B-2	NH <sub>2</sub>	OH	
1294		B-2	NH <sub>2</sub>	H	
1295		B-2	H		
1296		B-2	H		
1297		B-2	H	NH <sub>2</sub>	
1298		B-2	H	OH	
1299		B-1-a			
1300		B-1-b			
1301		B-3	H	NH <sub>2</sub>	H

CPD #	A	B	Z <sub>2</sub>	Z <sub>6</sub>	Z <sub>7</sub>
1302		B-2	NH <sub>2</sub>		
1303		B-2	NH <sub>2</sub>		
1304		B-2	NH <sub>2</sub>	NH <sub>2</sub>	
1305		B-2	NH <sub>2</sub>	OH	
1306		B-2	NH <sub>2</sub>	H	
1307		B-2	H		
1308		B-2	H		
1309		B-2	H	NH <sub>2</sub>	
1310		B-2	H	OH	
1311		B-1-a			
1312		B-1-b			
1313		B-3	H	NH <sub>2</sub>	H