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(74) Agents: GOETZ, Robert, A. et al.; Casimir Jones, S.C.,
440 Science Drive, Suite 203, Madison, WI 53711 (US).

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(71) Applicant (for all designated States except US): THE REGENTS OF THE UNIVERSITY OF MICHIGAN [US/US]; 3003 South State Street, Ann Arbor, MI 48109 (US).

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(72) Inventors; and

(75) Inventors/Applicants (for US only): WANG, Shaomeng [US/US]; 9343 Yorkshire Drive, Saline, MI 48176 (US). PENG, Yuefeng [CN/US]; 2666 Arrowwood Trail, Ann Arbor, MI 48105 (US). SUN, Haiying [CN/US]; 1515 Jones Drive, Apt. 14, Ann Arbor, MI 48105 (US). CAI, Qian [CN/US]; 1512 Plymouth Road, Apt. 64, Ann Arbor, MI 48105 (US). NIKOLOVSKA-COLESKA, Zaneta [MK/US]; 1425 McIntyre Drive, Ann Arbor, MI 48105 (US). LU, Jianfeng [CN/US]; 1501 Jones Drive, Ann Arbor, MI 48105 (US). QIU, Su [CN/US]; 3309 Honeysuckle Drive, Ann Arbor, MI 48103 (US).

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(54) Title: DIAZO BICYCLIC SMAC MIMETICS AND THE USES THEREOF

(57) Abstract: The invention relates to diazo bicyclic mimetics of Smac which function as inhibitors of Inhibitor of Apoptosis Proteins. The invention also relates to the use of these mimetics for inducing apoptotic cell death and for sensitizing cells to inducers of apoptosis.



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<p>A. CLASSIFICATION OF SUBJECT MATTER IPC(8) - A61K 31/55, A61P 35/00, C07D 487/00 (2008.04) USPC - 435/375, 514/299, 546/183, 540/461, 514/183, 540/5 According to International Patent Classification (IPC) or to both national classification and IPC</p>														
<p>B. FIELDS SEARCHED</p> <p>Minimum documentation searched (classification system followed by classification symbols) USPC - 435/375, 514/299, 546/183, 540/461, 514/183, 540/5 IPC(8) - A61K 31/55, A61P 35/00, C07D 487/00 (2008.04)</p> <p>Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched USPC - 435/375, 514/299, 546/183, 540/461, 514/183, 540/5 IPC(8) - A61K 31/55, A61P 35/00, C07D 487/00 (2008.04) (keywords search)</p> <p>Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) WEST: DB=PGPB,USPT,USOC,EPAB,JPAB: Google: Scholar/patents Search terms used: Smac Mimetics azepinone bicyclic apoptosis inducer diazo azepine azapine inhibitors</p>														
<p>C. DOCUMENTS CONSIDERED TO BE RELEVANT</p> <table border="1"> <thead> <tr> <th>Category*</th> <th>Citation of document, with indication, where appropriate, of the relevant passages</th> <th>Relevant to claim No.</th> </tr> </thead> <tbody> <tr> <td>X ---- Y</td> <td>WO2006/010118 A2 (WANG Et al) 26 January 2006 (26.01.2006), para [0025];[0072]-[0074]; [0102]; [0104];[0105];[0108]-[0110];[0116];[0124]-[0125]; [0128]; [0161]; [0162]; [0202]; scheme iv; pg 87, claims 8-13; pg 88, claims 15-22; pg 89, claims 23-31; pg 90, claims 35-47</td> <td>77-81 ----- 1-76</td> </tr> <tr> <td>Y</td> <td>WU et al., "Structural basis of IAP recognition by Smac/DIABLO", Nature. Vole 408 (6815), pp 1008-1012 21 December 2000 (21.12.2000), pg 1010; Figure 2; pg 1011, Figure 3; pg 1011, Col 2, para 5</td> <td>1-76</td> </tr> <tr> <td>Y</td> <td>LENMAN et al., "Synthesis of fused 1,2,5-triazepine-1,5-diones and some N2- and N3-substituted derivatives: potential conformational mimetics for cis-peptidyl prolinamides", Journal Chemical Society, Perkins Trans 1, 28 July 1997 (28.07.1997), 2297-2311. pg 2301, Col 1, para 2</td> <td>73-76</td> </tr> </tbody> </table>			Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	X ---- Y	WO2006/010118 A2 (WANG Et al) 26 January 2006 (26.01.2006), para [0025];[0072]-[0074]; [0102]; [0104];[0105];[0108]-[0110];[0116];[0124]-[0125]; [0128]; [0161]; [0162]; [0202]; scheme iv; pg 87, claims 8-13; pg 88, claims 15-22; pg 89, claims 23-31; pg 90, claims 35-47	77-81 ----- 1-76	Y	WU et al., "Structural basis of IAP recognition by Smac/DIABLO", Nature. Vole 408 (6815), pp 1008-1012 21 December 2000 (21.12.2000), pg 1010; Figure 2; pg 1011, Figure 3; pg 1011, Col 2, para 5	1-76	Y	LENMAN et al., "Synthesis of fused 1,2,5-triazepine-1,5-diones and some N2- and N3-substituted derivatives: potential conformational mimetics for cis-peptidyl prolinamides", Journal Chemical Society, Perkins Trans 1, 28 July 1997 (28.07.1997), 2297-2311. pg 2301, Col 1, para 2	73-76
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<p>Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201</p>		<p>Authorized officer: Lee W. Young PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774</p>												