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(71) Applicant: SABIC GLOBAL TECHNOLOGIES B.V.

[NL/NL]; Plasticslaan 1, 4612 PX Bergen Op Zoom (NL).

(72) Inventor; and

(71) Applicant (for BZ only): KUMAR, Prashant [IN/US]; 3602 Quarry Ridge Dr., Evansville, IN 47720 (US).

(72) Inventors: ALIDEDEOGLU, Husnu, Alp; 2011 Bent

Tree Dr., Newburgh, IN 47630 (US). CHELLAMUTHU, Manojkumar; 3693 Arbor Pointe Drive, Newburgh, IN

47630 (US). GROOTE, Ramon; Bieslook 32, 5063 EC Oisterwijk (NL).

(74) Agent: QUICKER, Katrina, M. et al.; Baker & Hostetler LLP, 1170 Peachtree Street NE, Suite 2400, Atlanta, GA 30309-7676 (US).

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(54) Title: METHODS OF FORMING DYNAMIC CROSS-LINKED POLYMER COMPOSITIONS USING FUNCTIONAL, POLY-MERIC CHAIN EXTENDERS UNDER BATCH PROCESS

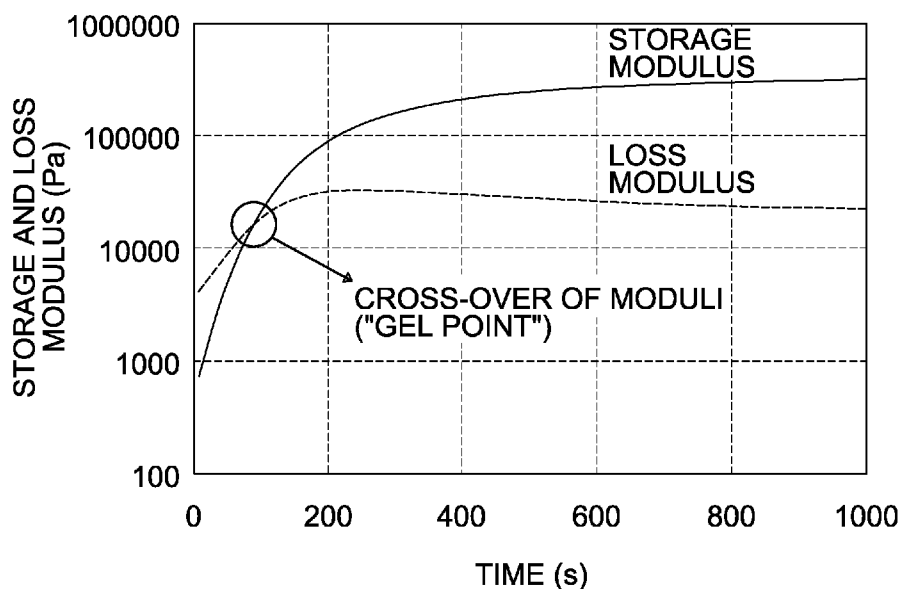


FIG. 1

(57) Abstract: Methods for preparing dynamic cross-linked polymer compositions derived from an ester oligomer component, a poly-meric chain extender component, and transesterification and poly condensation catalysts are described.



TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
KM, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

INV. C08G59/42 C08G59/68 C08L63/00 C08L67/02 C08G63/91
ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
C08L C08G

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EP0-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 2016/009392 A1 (SABIC GLOBAL TECHNOLOGIES BV [NL]) 21 January 2016 (2016-01-21) paragraphs [0035], [0049]; claims 1, 18 -----	1-20
Y	US 2014/088223 A1 (LEIBLER LUDWIK [FR] ET AL) 27 March 2014 (2014-03-27) paragraph [0163] -----	1-20

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents :

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"&" document member of the same patent family

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Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040,
Fax: (+31-70) 340-3016

Authorized officer

Hoffmann, Michael

INTERNATIONAL SEARCH REPORT

Information on patent family members

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PCT/US2017/030197

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2016009392 A1	21-01-2016	CN 106795274 A EP 3169717 A1 US 2017218192 A1 WO 2016009392 A1	31-05-2017 24-05-2017 03-08-2017 21-01-2016
US 2014088223 A1	27-03-2014	BR 112013029011 A2 CN 103687888 A EP 2707413 A1 FR 2975101 A1 JP 6099630 B2 JP 2014513192 A US 2014088223 A1 WO 2012152859 A1	17-01-2017 26-03-2014 19-03-2014 16-11-2012 22-03-2017 29-05-2014 27-03-2014 15-11-2012