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(54) Title: APPARATUS AND METHODS FOR CONTROLLED RADICAL POLYMERIZATION

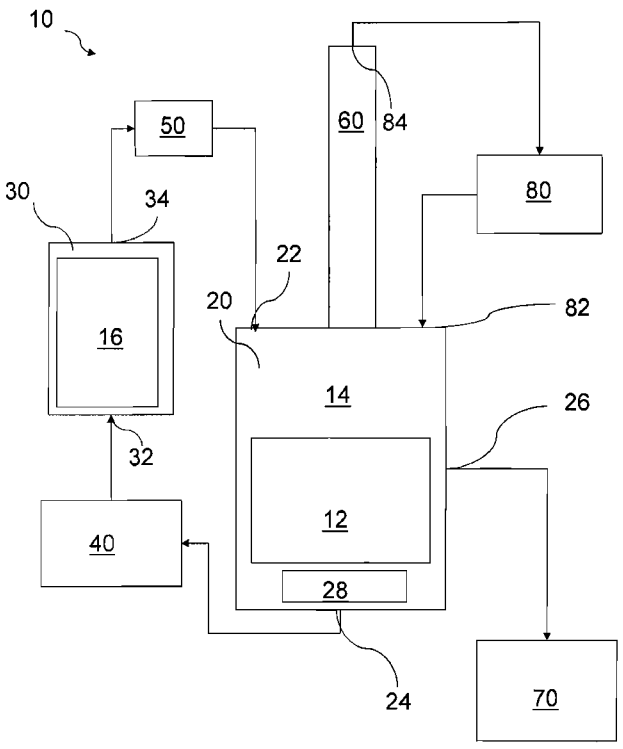


FIG. 1

(57) Abstract: A method of conducting controlled radical polymerization, including: (a) providing a mixture of: at least one monomer; at least one monomer solvent; at least one compound metal coordinating capable; and at least one initiator; (b) directing the mixture at a rate over a solid catalyst surface contained in an external chamber to the vessel, the catalyst including a metal or metal compound capable of at least two oxidation states; (c) monitoring the reaction vessel temperature; (d) adjustging the flow rate when the temperature is outside a selected temperature range; and (e) allowing the polymerization to proceed to desired conversion level.

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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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)

eKOMPASS(KIPO internal) & Keywords:radical polymerization,catalyst,coordination,initiator

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2005-0131186 A1 (VIRGIL PERCEC et al.) 16 June 2005 See the whole document	1-44
A	WADE A.BRAUNECKER et al.Controlled/living radical polymerization, November 2006, See the whole document	1-44
A	US 6602965 B1 (TERAZAWA; HIROMU et al.) 05 August 2003 See the whole document	1-44
A	KR 10-0282757 B1 (CARNEGIE MELLON UNIVERSITY) 15 February 2001 See the whole document	1-44

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

☒ See patent family annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
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