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(71) Applicant: UOP LLC [US/US]; 25 East Algonquin Road, P. O. Box 5017, Des Plaines, Illinois 60017-5017 (US).

(72) Inventors: MARTINS, Susie C.; Uop Llc, 25 East Algonquin Road, P. O. Box 5017, Des Plaines, Illinois 60017-5017 (US). NAFIS, Douglas A.; Uop Llc, 25 East Algonquin Road, P. O. Box 5017, Des Plaines, Illinois 60017-5017 (US). BHATTACHARYYA, Alakananda; Uop Llc, 25 East Algonquin Road, P. O. Box 5017, Des Plaines, Illinois 60017-5017 (US).

(74) Agent: GOODING, Arthur E.; Uop LLC, 25 East Algonquin Road, P. O. Box 5017, Des Plaines, Illinois 60017-5017 (US).

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(54) Title: ALKYLATION PROCESS USING PHOSPHONIUM-BASED IONIC LIQUIDS

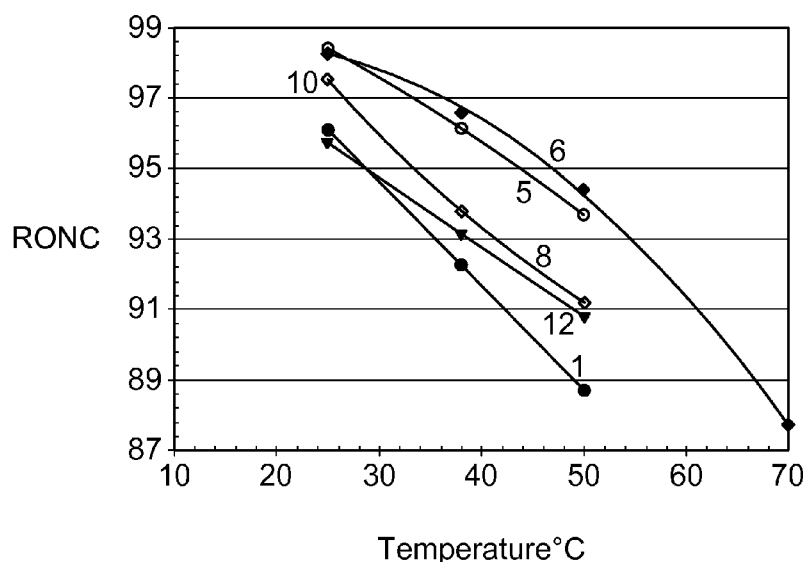


FIG. 1

(57) Abstract: A process for making an alkylate is presented. The process includes mixing an isoparaffin stream with an olefin stream in an alkylation reactor. The alkylation reactor includes a catalyst for performing the reaction. The catalyst is an ionic liquid that is a quaternary phosphonium based ionic liquid, and the reaction is performed at or near ambient temperatures.

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