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(71) Applicant: **NOVOMER, INC.** [US/US]; 950 Danby Road, Suite 198, Ithaca, New York 14850 (US).

(72) Inventors: **ALLEN, Scott D.**; c/o Novomer, Inc., 950 Danby Road, Suite 198, Ithaca, New York 14850 (US).
COATES, Geoffrey; c/o Novomer, Inc., 950 Danby Road, Suite 198, Ithaca, New York 14850 (US).

(74) Agents: **KLEIN, Daniel A.** et al.; CHOATE, HALL & STEWART LLP, Two International Place, Boston, Massachusetts 02110 (US).

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(54) Title: PROCESS FOR ACRYLATE PRODUCTION

(57) Abstract: Disclosed are methods for the continuous flow production of acrylic acid and derivatives thereof from an epoxide feedstock. In one embodiment, the method includes the steps of: contacting a process stream comprising ethylene oxide and an organic solvent with a carbonylation catalyst and carbon monoxide to provide a reaction stream containing beta propiolactone; applying the reaction stream containing the beta propiolactone to a nanofiltration membrane to produce a permeate stream containing beta lactone and a retentate stream containing carbonylation catalyst; and treating the permeate stream under conditions to convert the beta propiolactone into an acrylate ester. In some embodiments, the retentate stream is returned to the first step of the process where it is recharged with additional epoxide and passed through the sequence again.

