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(71) Applicant: SOLUGEN, INC. [US/US]; 14549 Minetta
Street, Houston, TX 77035-6523 (US).

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(72) Inventors: HUNT, Sean; c/o Solugen, Inc., 14549 Minetta
Street, Houston, TX 77035-6523 (US). CHAKRABARTI,
Gaurab; c/o Solugen, Inc., 14549 Minetta Street, Houston,
TX 77035-6523 (US). BOUCHER-JACOBS, Camille;
c/o Solugen, Inc., 14549 Minetta Street, Houston, TX
77035-6523 (US). DESAI, Amit; c/o Solugen, Inc., 14549
Minetta Street, Houston, TX 77035-6523 (US). AN, Jun
Su; c/o Solugen, Inc., 14549 Minetta Street, Houston, TX
77035-6523 (US). NGANTUNG, Frederyk; c/o Solugen,
Inc., 14549 Minetta Street, Houston, TX 77035-6523 (US).
KIM, Jihye; c/o Solugen, Inc., 14549 Minetta Street, Hous-
ton, TX 77035-6523 (US).

(74) Agent: FALESKI, Thaddeus, J. et al.; Conley Rose, P.C.,
777 North Eldridge Parkway, Suite 600, Houston, TX
77079 (US).

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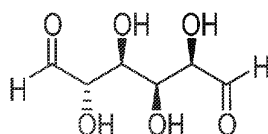


FIG. 1A

(57) Abstract: A polymeric material comprising a base monomer and a multifunctional biobased molecule wherein the multifunctional biobased molecule is a glucose derivative. A polymeric material comprising a base polymer and a polymeric additive comprising glucaric acid, glucodialdose, gluconic acid, erythorbic acid, 2-ketoglucose, lactic acid, adipic acid, sorbitol, glycerol, mannitol, lactones thereof, salts thereof, or combinations thereof wherein the additive when introduced to a base polymer forms a modified polymer wherein the modified polymer has a tensile strength that is increased by from about 10% to about 100% wherein compared to the base polymer.