

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(10) International Publication Number
WO 2023/168489 A1

(43) International Publication Date
14 September 2023 (14.09.2023)

(51) International Patent Classification:

C04B 35/571 (2006.01) C08G 77/24 (2006.01)
B33Y 70/10 (2020.01) C08L 83/06 (2006.01)
C08G 77/20 (2006.01) C08L 83/08 (2006.01)

(21) International Application Number:

PCT/AU2023/050159

(22) International Filing Date:

08 March 2023 (08.03.2023)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

2022900557 08 March 2022 (08.03.2022) AU
2022901435 27 May 2022 (27.05.2022) AU

(71) Applicant: **UNIVERSITY OF TASMANIA** [AU/AU];
Churchill Avenue, Sandy Bay, Tasmania 7005 (AU).

(72) Inventors: **GUPTA, Vipul**; Churchill Avenue, Sandy Bay,
Tasmania 7005 (AU). **NOROUZI, Ahmad Reza**; Churchill
Avenue, Sandy Bay, Tasmania 7005 (AU).

(74) Agent: **GRIFFITH HACK**; GPO Box 1285, Melbourne,
Victoria 3001 (AU).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ,
CA, CH, CL, CN, CO, CR, CU, CV, CZ, DE, DJ, DK, DM,
DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,
HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE,
KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU,
LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG,
NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS,
RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH,
TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS,
ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, CV,
GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, SD, SL, ST,
SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ,
RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ,
DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT,
LU, LV, MC, ME, MK, MT, NL, NO, PL, PT, RO, RS, SE,
SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,
GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))

(54) Title: PRECERAMIC RESINS AND POLYMER-DERIVED CERAMICS

(57) Abstract: The present disclosure relates to organosilicon preceramic resin compositions for forming polymer-derived ceramic materials, especially high-shrinkage polymer-derived ceramic materials. It also relates to organosilicon polymer-derived ceramic materials articles and methods for their formation.



WO 2023/168489 A1