

Tough Silicon Carbide Macro/Mesocellular Crack-Free Monolithic Foams

Simona Ungureanu,^{1,2} Gilles Sigaud,¹ Gérard L. Vignoles³, C. Lorrette,⁴ Marc Birot,^{2,*} Alain Derré,¹ Odile Babot,² Hervé Deleuze,² Alain Soum,⁵ Gilles Pécastaings⁵ and Rénal Backov^{1,*}

[1] Université de Bordeaux, Centre de Recherche Paul Pascal, UPR 8641 CNRS, 115 avenue Albert Schweitzer, 33600 Pessac, France. E-mail: backov@crpp-bordeaux.cnrs.fr

[2] Université de Bordeaux, Institut des Sciences Moléculaires (ISM) UMR 5255 CNRS, 351 Cours de la Libération, 33405 Talence, France. E-mail: m.biro@ism.u-bordeaux1.fr

[3] Université de Bordeaux, Laboratoire des Composites Thermostructuraux, UMR 5801 CNRS-UB1-CEA-Snecma Propulsion Solide, 3 Allée de la Boétie, 33600 Pessac, France.

[4] CEA, Laboratoire des Composites Thermostructuraux, UMR 5801 CNRS-UB1-CEA-Snecma Propulsion Solide, 3 Allée de la Boétie, 33600 Pessac, France.

[5] Université de Bordeaux, Laboratoire de Chimie des Polymères Organiques UMR 5629 CNRS, ENSCBP 16 avenue Pey Berland, BP 108, 33607 Pessac, France.

1. TG Analyses

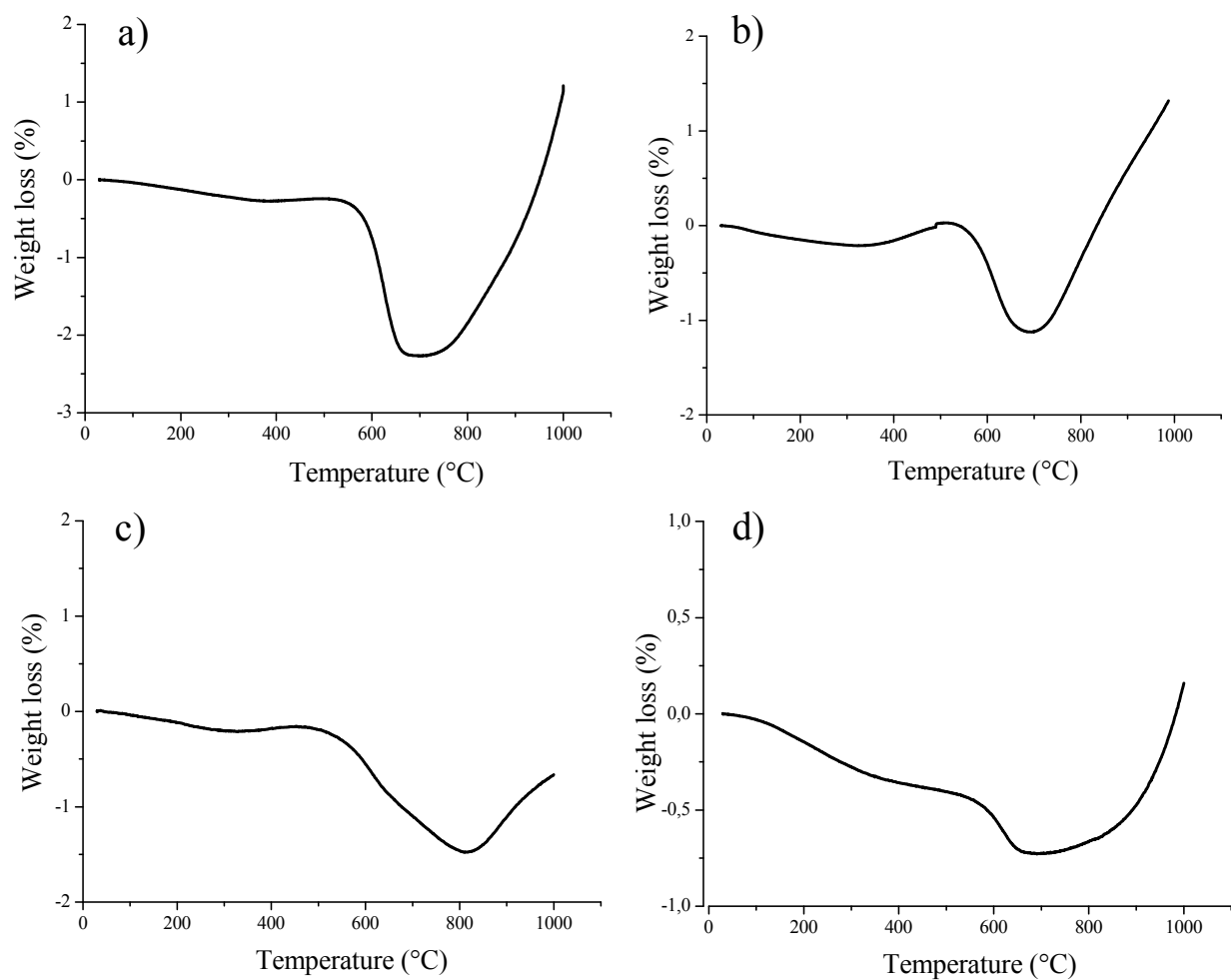


Figure S1. TG analysis under oxygen flow of the as-synthesized β -SiC(HIPE) samples: a) β -SiC-20, b) β -SiC-30, c) β -SiC-40, d) β -SiC-60.

2. DSC experiments

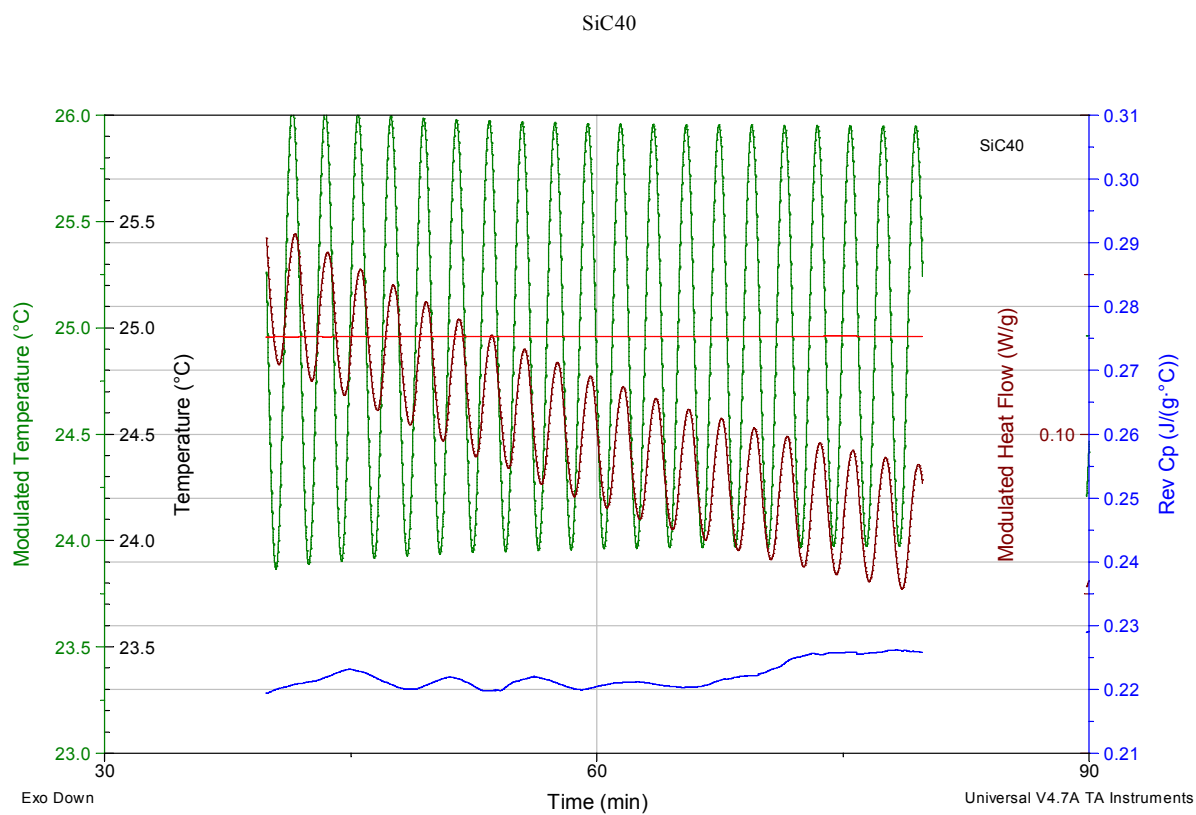


Figure S2. Example of a quasi isothermal heat capacity measurement in modulated temperature mode (β -SiC-40): the *bulk* C_p (bottom curve) is calculated from the temperature modulation ($(25 \pm 1)^\circ\text{C}$, larger amplitude periodic curve) and the measured heat flux (smaller amplitude periodic curve).