Electronic Supplementary Material (ESI) for RSC Advances.

Supporting information

Porous monoliths synthesized via polymerization of styrene and divinyl benzene in nonaqueous deep-eutectic solvent-based HIPEs

by

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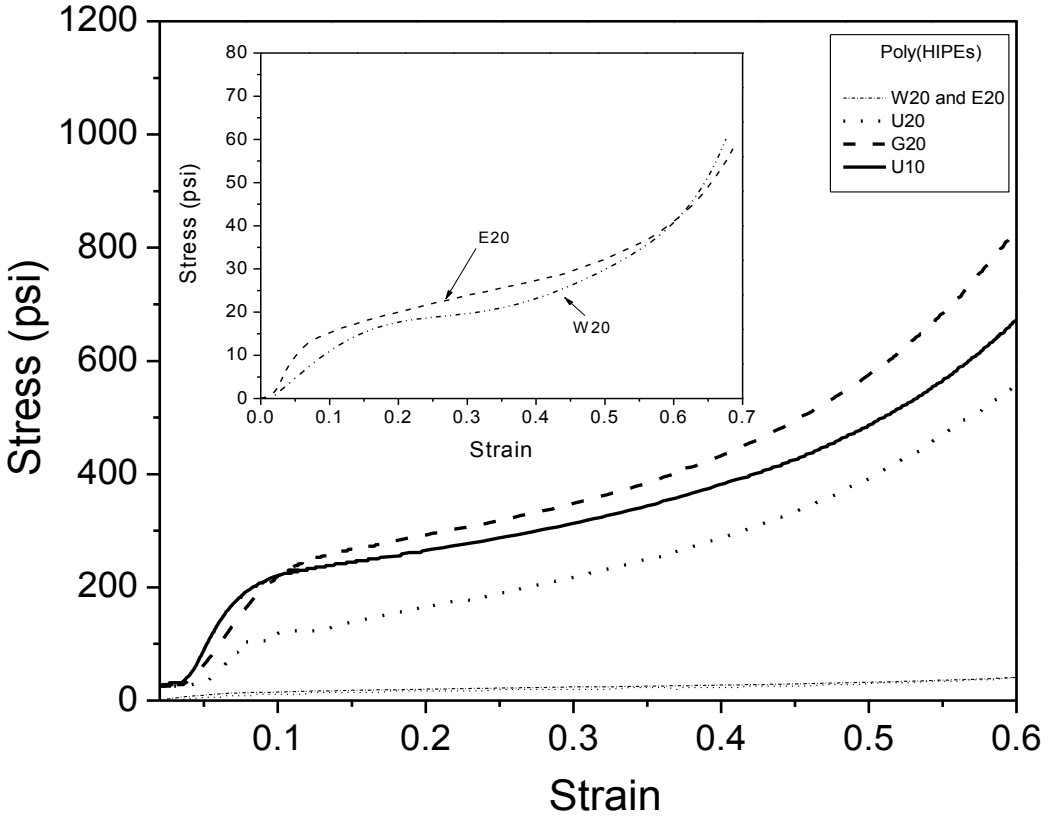


Figure S1. Compressive stress-strain curves of poly(HIPEs). Inset: Stress-strain curves of poly(HIPEs)-E20 and W20.

Scheme S1. PolyHIPE openness can be estimated using the following equation proposed by Pulko and Krajnc.[42]

$$O = \frac{Open\ surface\ of\ pore}{Surface\ area\ of\ pore\ window} = \frac{S_P}{S_W} \quad (1)$$

$$\boldsymbol{S_P = N \cdot \pi \cdot \left(\frac{d^2}{2}\right)} \quad (2)$$

$$\boldsymbol{S_W = \pi \cdot D^2} \quad (3)$$

$$\boldsymbol{O = \frac{N \cdot \pi \cdot \left(\frac{d^2}{2}\right)}{\pi \cdot D^2} = \frac{N \cdot \left(\frac{d^2}{2}\right)}{D^2} = \frac{N \cdot d^2}{4 \cdot D^2}} \quad (4)$$

$$\boldsymbol{N = \frac{4n}{\sqrt{3}}} \quad (5)$$

Where:

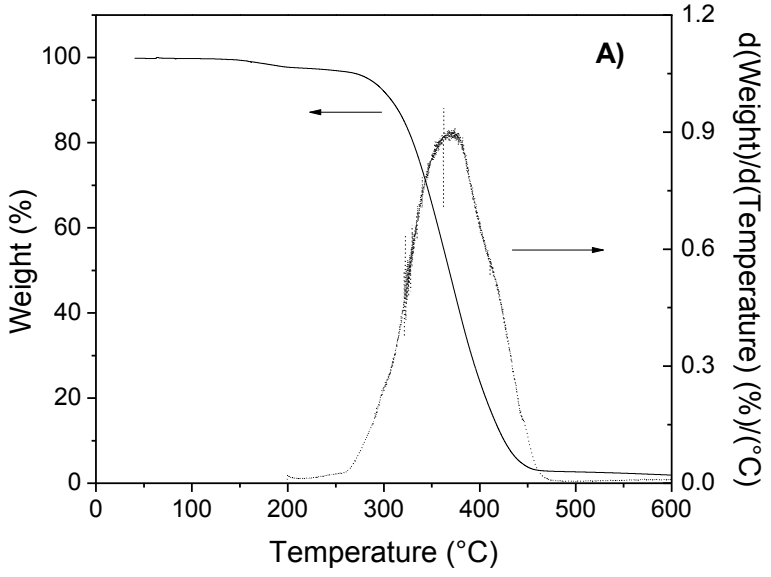
O = PolyHIPE openness

N = Estimated average number of pore windows

n = average number of visible pore windows

d = average pore window diameter

D = average pore diameter



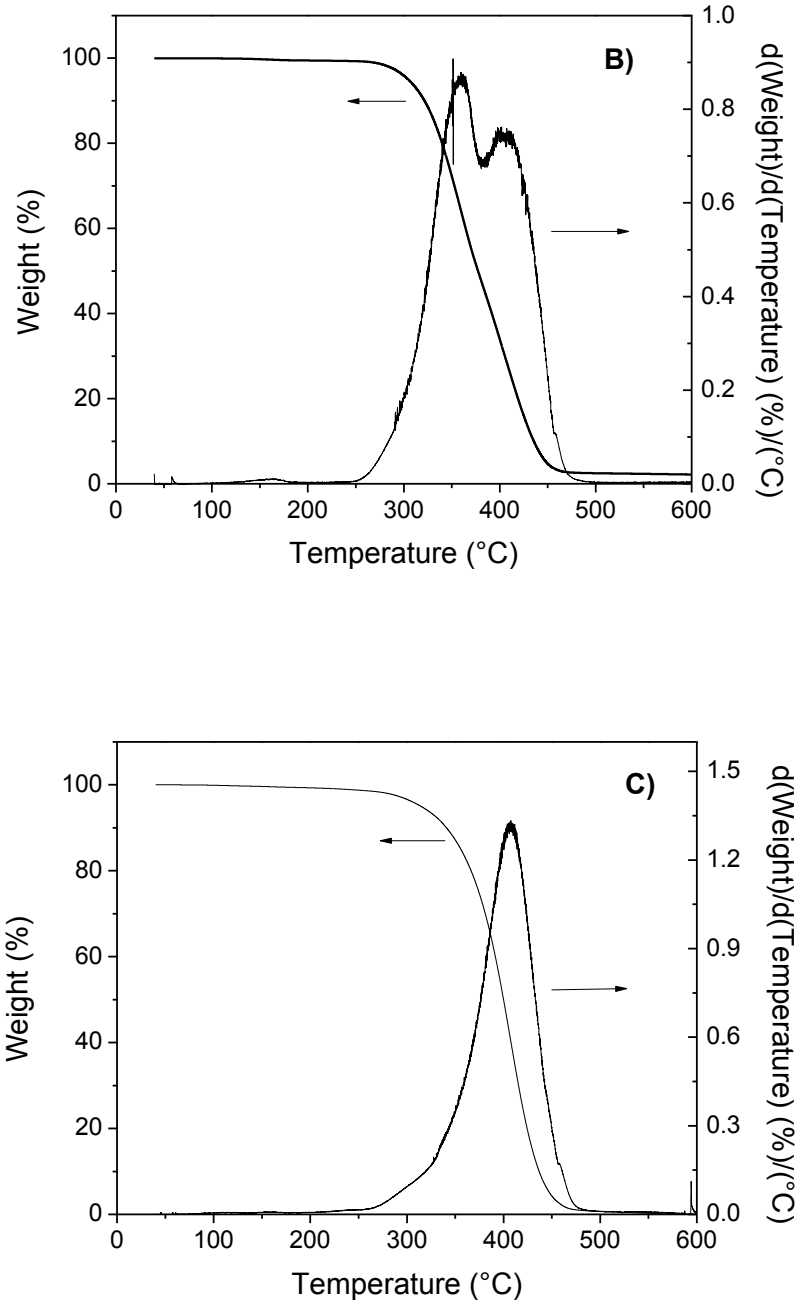


Figure S2. Thermogravimetric analysis of A) Poly(HIPE)-U10 B) Poly(HIPE)-U20 and C) poly(HIPE)-G20.

Table S1. Summary of thermal properties

Sample	Mass of Sample [mg]	T_d 2% [^oC]	T_d 5% [^oC]	% H_2O Retained
PolyHIPE-U10	9.31	284	305	0.05
PolyHIPE-U20	6.43	197	285	0.11
PolyHIPE-G20	6.12	280	315	0.19

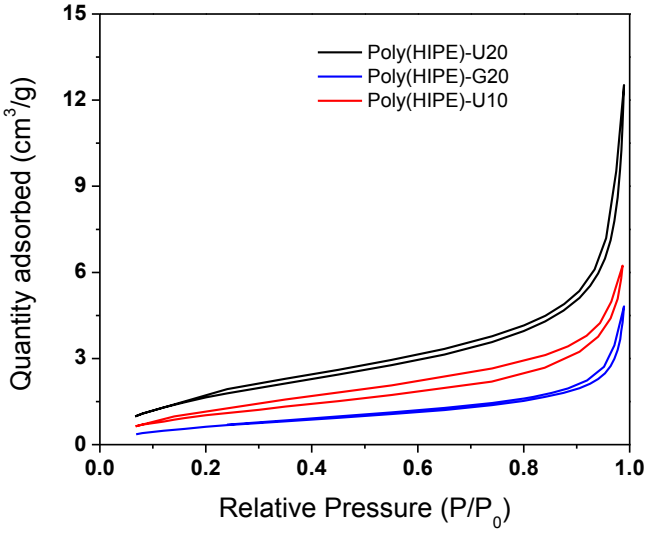


Figure S3. Nitrogen adsorption/desorption isotherms of poly(HIPEs).