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]

\[
O = \frac{\text{open surface of pore}}{\text{Surface area of pore window}} = \frac{S_P}{S_W}
\]  
(1)

\[
S_P = N \cdot \pi \cdot \left(\frac{d^2}{2}\right)
\]

\[
S_W = \pi \cdot D^2
\]

\[
O = \frac{N \cdot \pi \left(\frac{d^2}{2}\right)}{\pi \cdot D^2} = \frac{N \cdot \left(\frac{d^2}{2}\right)}{D^2} = \frac{N \cdot d^2}{4 \cdot D^2}
\]

\[
N = \frac{4n}{\sqrt{3}}
\]

(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

<table>
<thead>
<tr>
<th>Sample</th>
<th>Mass of Sample [mg]</th>
<th>$T_d$ 2% [°C]</th>
<th>$T_d$ 5% [°C]</th>
<th>% H$_2$O Retained</th>
</tr>
</thead>
<tbody>
<tr>
<td>PolyHIPE-U10</td>
<td>9.31</td>
<td>284</td>
<td>305</td>
<td>0.05</td>
</tr>
<tr>
<td>PolyHIPE-U20</td>
<td>6.43</td>
<td>197</td>
<td>285</td>
<td>0.11</td>
</tr>
<tr>
<td>PolyHIPE-G20</td>
<td>6.12</td>
<td>280</td>
<td>315</td>
<td>0.19</td>
</tr>
</tbody>
</table>

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