Electronic Supporting Information

Facile Synthesis of Microcellular Foams Catalysts with Adjustable Hierarchical Porous Structure, Acid-base Strength and Wettability for Biomass Energy Conversation

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Table S1 The acidic and basic contents of the MFCs.

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<table>
<thead>
<tr>
<th>Samples</th>
<th>S content (mmol g⁻¹)</th>
<th>Total acidity (mmol g⁻¹)</th>
<th>N content (mmol g⁻¹)</th>
<th>Total basicity (mmol g⁻¹)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MFCs-1</td>
<td>0.755</td>
<td>0.769</td>
<td>0.452</td>
<td>0.480</td>
</tr>
<tr>
<td>MFCs-2</td>
<td>1.658</td>
<td>1.732</td>
<td>0.623</td>
<td>0.662</td>
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<tr>
<td>MFCs-3</td>
<td>1.32</td>
<td>1.305</td>
<td>0.782</td>
<td>0.735</td>
</tr>
<tr>
<td>MFCs-4</td>
<td>1.293</td>
<td>1.332</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Reused MFCs-3</td>
<td>1.179</td>
<td>1.200</td>
<td>0.582</td>
<td>0.640</td>
</tr>
<tr>
<td>Unsulfonated MFCs-3</td>
<td>0</td>
<td>0</td>
<td>0.894</td>
<td>0.873</td>
</tr>
</tbody>
</table>
Fig. S1 Phenomenon of reaction products in different reaction time with 20 min (a) in pretreatment process, 20 min (b) in catalytic process at 130 °C.
Fig. S2 CLSM photos of Pickering HIPEs.
Fig. S3 FT-IR spectra of MFCs-3 (a), MFCs-1 (b), MFCs-4 (c), MFCs-2 (d), S-GMA (e), and S-NH$_2$ (f).
Fig. S4 NH$_3$-TPD curve of unsulfonation MFCs-3.
Fig. S5 SEM image of MFCs-3 after treated in 200 °C for 5.0 h.
Fig. S6 ESI-MS spectra of the solution before and after solution treatment under the treatment conditions: MFCs-3 power (50 mg) added into hexadecane (2.0 g) and kept 5.0 h in 150°C under stirring.
Fig. S7 FT-IR spectra of the solution before and after solution treatment under the treatment conditions: MFCs-3 power (50 mg) added into [EMIM]-Cl (2.0 g) and kept 5.0 h in 150 °C under stirring.