Supplemental materials for:

Production of furfural from xylose and corn stover catalyzed by a novel porous carbon solid acid in γ-valerolactone

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Figure captions:

Fig S1. TEM images of RFC (A) and S-RFC (B)
Fig S2. FT-IR spectra of RFC and S-RFC
Fig S3. S 2p XPS spectra of S-RFC

Table captions:

Table S1. Deactivation study of S-RFC
Table S2. S content of reused S-RFC
Table S1. Deactivation study of S-RFC.\textsuperscript{a}

<table>
<thead>
<tr>
<th>Run</th>
<th>1\textsuperscript{st}</th>
<th>2\textsuperscript{nd}</th>
<th>3\textsuperscript{rd}</th>
<th>4\textsuperscript{th}</th>
<th>5\textsuperscript{th}</th>
<th>6\textsuperscript{th} \textsuperscript{b}</th>
<th>7\textsuperscript{th} \textsuperscript{c}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Furfural yield (%)</td>
<td>76.2</td>
<td>74.7</td>
<td>73.1</td>
<td>69.5</td>
<td>45</td>
<td>35%</td>
<td>25%</td>
</tr>
</tbody>
</table>

\textsuperscript{a} Reaction conditions: 0.6 g S-RFC, 0.8 g xylose, 32 ml GVL, 170\degree C, 5 min reaction time, 25 min heating-up time.

\textsuperscript{b} The catalyst was regenerated by a new sulfonation cycle

\textsuperscript{c} The catalyst was regenerated by removal of deposits

Table S2. S content of reused S-RFC.

<table>
<thead>
<tr>
<th>Catalyst</th>
<th>fresh</th>
<th>Run 1</th>
<th>Run 2</th>
<th>Run 3</th>
<th>Run 4</th>
<th>Run 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfur content (%)</td>
<td>2.75</td>
<td>2.7</td>
<td>2.5</td>
<td>2.4</td>
<td>2.1</td>
<td>1.5</td>
</tr>
</tbody>
</table>
Fig S1. TEM images of RFC (A) and S-RFC (B)
Fig S2. FT-IR spectra of RFC and S-RFC
**Fig. S3** S 2p XPS spectra of S-RFC