Electronic Supporting Information

Towards Hydroxamic acid Linked Zirconium Metal–Organic Frameworks

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1 - Experimental section

1.1 – Synthesis of benzene-1,4-dihydroxamic acid (H₂BDHA)

![Scheme S1](image)

**Figure S1** – $^1$H NMR (600 MHz) spectrum of benzene-1,4-dihydroxamic acid in DMSO-$d_6$. 
Figure S2 – $^{13}$C NMR (151 MHz) spectrum of benzene-1,4-dihydroxamic acid in DMSO-$d_6$. 
Figure S3 – ESI+-TOF mass spectrum of benzene-1,4-dihydroxamic acid.
2 – Characterization

Figure S4 – TGA data for UiO-66 and UiO-66-H₂BDHA.

3 – Stability tests

Figure S5 – (a) PXRD patterns obtained for UiO-66 (made with HCl) and UiO-66-H₂BDHA in the evaluation of their stability at different pH.
**Figure S6** – PXRD patterns obtained for defect-free UiO-66 in the evaluation of its stability at different pH.

**Figure S7** – N<sub>2</sub> isotherms of defect-free UiO-66 obtained in the stability studies at different pH.
Table S1 – Brunauer–Emmett–Teller (BET) areas of the materials used in the stability tests at different pH.

<table>
<thead>
<tr>
<th>Material</th>
<th>BET area (m$^2$/g)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Original material</td>
</tr>
<tr>
<td>UiO-66</td>
<td>1580</td>
</tr>
<tr>
<td>UiO-66-H$_2$BDHA</td>
<td>1050</td>
</tr>
<tr>
<td>UiO-66 (acetic acid)</td>
<td>1190</td>
</tr>
</tbody>
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