Supplementary Material

A facile preparation of ambient pressure dried hydrophilic silica aerogels and their application in aqueous dye removal

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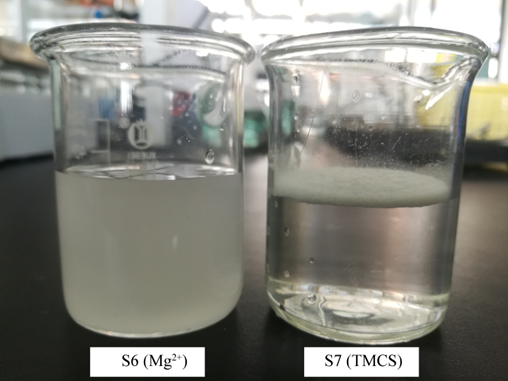
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**Figure S1** Photographs of hydrophobicity/hydrophilicity of S6 (Mg2+) and S7 (TMCS) sample.

**Table S1** Dynamic parameters for adsorption of RhB or MB onto SAs samples.

Pseudo-first-order

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Sample | MB | | | RhB | | | |
| qe (mg g−1) | k1 (min−1) | R2 | qe (mg g−1) | k1` (min−1) | R2 |
| S1 |  |  | 0.8752 | 1.77 |  | 0.8263 |
| S2 |  |  | 0.7500 | 2.91 |  | 0.6777 |
| S3 |  |  | 0.8489 | 2.00 |  | 0.9905 |
| S4 |  |  | 0.9571 | 2.55 |  | 0.8048 |
| S5 |  |  | 0.9784 | 1.43 |  | 0.6205 |
| S6 |  |  | 0.7174 | 2.81 |  | 0.7192 |
| S7 | 3.63 |  | 0.8184 | 0.68 |  | 0.5890 |

Pseudo-second-order

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Sample | MB | | | | RhB | | |
| qe (mg g−1) | k2 (gmg−1 min−1) | R2 | qe (mg g−1) | | k2` (gmg−1 min−1) | R2 |
| S1 |  |  | 0.9999 | 1.77 | |  | 0.9718 |
| S2 |  |  | 0.9990 | 2.91 | |  | 0.9997 |
| S3 |  |  | 0.9982 | 2.00 | |  | 0.9995 |
| S4 |  |  | 0.9999 | 2.55 | |  | 0.9990 |
| S5 |  |  | 0.9999 | 1.43 | |  | 0.9982 |
| S6 |  |  | 0.9999 | 2.81 | |  | 0.9981 |
| S7 | 3.63 | \* | \* | 0.68 | |  | 0.9379 |

Intra-particle diffusion

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Sample | MB | | | RhB | | | |
| qe (mg g−1) | kid (mg g−1 min−0.5) | R2 | qe (mg g−1) | kid` (mg g−1 min−0.5) | R2 |
| S1 |  |  | 0.7700 | 1.77 |  | 0.7232 |
| S2 |  |  | 0.7497 | 2.91 |  | 0.6378 |
| S3 |  |  | 0.892 | 2.00 |  | 0.8645 |
| S4 |  |  | 0.8376 | 2.55 |  | 0.8558 |
| S5 |  |  | 0.8168 | 1.43 |  | 0.6574 |
| S6 |  |  | 0.8078 | 2.81 |  | 0.7389 |
| S7 | 3.63 |  | 0.8308 | 0.68 |  | 0.8792 |

\* represent the values of adsorption are negative.