**Table S3.**

Selected textural and acid site concentrations data reported in the literature for MWW zeolites and their modified products.

| MWW material | Treatment details | Si/Al | Surface area,  m2 g-1 | | Pore volume,  cm3 g-1 | | | Acid site concentration at 150 C°, mmol g-1 | | | Ref. |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| SBET | Smeso | Vtotal | Vmicro | Vmeso | BAS | LAS | Large base |
| MCM-22 |  | 50 (gel) | 453 | 111 |  |  |  | 0.057 | 0.023 | 2.3\* | 1 |
| MCM-56 |  | 12(gel) | 400 | 156 |  |  |  | 0.064 | 0.077 | 3.0\* |
| ITQ-2 |  |  | 840 | 790 |  |  |  | 0.021 | 0.023 | 3.7\* \*relative |
| MCM-22 |  | 30 (gel 50) | 416 |  |  |  |  |  |  |  | 2 |
|  | Sonication time, minutes | | | | | | | | | |
| ITQ-2 | 15 | 10.8 | 832 | 785 |  |  |  |  |  |  |
|  | 90 |  | 840 | 796 |  |  |  |  |  |  |
|  | 120 |  | 985 | 960 |  |  |  |  |  |  |
|  | 600 |  | 1010 | 1010 | (mesoporous MCM-41) | | |  |  |  |
| MCM-22 |  | 19.8 | 442 |  |  |  |  |  |  |  |
| ITQ-2 | 15 | 9.5 | 452 | 91 |  |  |  |  |  |  |
|  | 90 |  | 560 | 98 |  |  |  |  |  |  |
|  | 120 |  | 580 | 121 |  |  |  |  |  |  |
|  | 600 |  | 630 | 280 |  |  |  |  |  |  |
|  | 1200 |  | 760 | 600 |  |  |  |  |  |  |
| MCM-22 |  | 12 | 378 | 294 | 0.16 | 0.10 | 0.06 |  |  |  | 3 |
| ITQ-2 |  | 12 | 639 | 237 | 0.51 | 0.10 | 0.41 |  | @100 °C |  |
| MCM-22 |  | 19 | 469 | 352 | 0.28 | 0.16 | 0.12 | 0.264 | 0.160 |  |
| ITQ-2 |  | 19 | 704 | 153 | 0.63 | 0.07 | 0.56 | 0.118 | 0.158 |  |
| MCM-22 |  | 23 | 401 | 318 | 0.22 | 0.14 | 0.08 |  |  |  |
| ITQ-2 |  | 24 | 859 | 202 | 0.66 | 0.08 | 0.58 |  |  |  |
| MCM-22 |  | 29 | 340 | 256 | 0.21 | 0.12 | 0.09 |  |  |  |
| ITQ-2 |  | 30 | 827 | 221 | 0.76 | 0.09 | 0.67 |  |  |  |
| MCM-22 |  | 46 | 396 | 311 | 0.18 | 0.11 | 0.07 |  |  |  |
| ITQ-2 |  | 48 | 689 | 322 | 0.47 | 0.05 | 0.42 |  |  |  |
| Syntheses of MCM-22 with added % surfactant | | | | | | | | | | | 4 |
| MCM-22 |  | 15 | 634 | 149 |  | 0.19 |  |  |  |  |
|  | 7% surfactant | | 592 | 348 |  | 0.11 |  |  |  |  |
|  | 8% surfactant | | 557 | 359 |  | 0.09 |  |  |  |  |
| MCM-22 |  | 30 | 626 | 109 |  | 0.21 |  |  |  |  |
|  | 7% surfactant | | 370 | 228 |  | 0.06 |  |  |  |  |
|  | 8% surfactant | | 327 | 229 |  | 0.04 |  |  |  |  |
| MCM-22 |  | 45 | 565 | 76 |  | 0.19 |  |  |  |  |
| ITQ-2 |  | 15 | 662 | 519 |  | 0.07 |  |  |  |  |
| ITQ-2 |  | 45 | 612 | 506 |  | 0.06 |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  | DTBP | 5 |
| MCM-22 |  |  | 495 | 145 | 0.99 | 0.17 | 0.15 | 0.294 | 0.123 | 0.081 |
| MCM-56 |  |  | 437 | 162 | 1.01 | 0.13 | 0.16 | 0.230 | 0.220 | 0.080 |
| DS-ITQ-2 |  |  | 545 | 304 | 2.06 | 0.12 | 0.41 | 0.183 | 0.181 | 0.147 |
| ITQ-2 |  |  | 745 | 574 | 1.04 | 0.08 | 0.38 | 0.189 | 0.177 | 0.195 |
| MCM-56 |  | 10 | 457 | 180 |  | 0.09 |  | 1.155 | 0.099 |  | 6 |
| MCM-56 | exfoliated, isolated | |  |  |  |  |  |  |  |  |
|  |  | 8 | 502 | 220 |  | 0.071 |  | 0.649 | 0.259 |  |
| MCM-56 |  | 11 | 467 | 167 |  | 0.092 |  | 0.778 | 0.097 |  |
| MCM-56 | exfoliated, isolated | |  |  |  |  |  |  |  |  |
|  |  | 9 | 633 | 309 |  | 0.105 |  | 0.557 | 0.244 |  |
| MCM-56 |  | 11 | 514 | 225 |  | 0.087 | 0.04 | 0.669 | 0.148 |  | 7 |
| MCM-56 | exfoliated, dialyzed, isolated | | |  |  |  |  |  |  |  |
|  |  |  | 566 | 171 |  | 0.108 | 0.08 | 0.598 | 0.18 |  |
| MCM-22 |  | 13.5 | 536 |  | 0.475 | 0.174 |  | 0.78 | 0.18 | 0.04 | 8 |
| MCM-22 | swell. calc. | 15.8 | 460 |  | 0.396 | 0.144 |  | 0.50 | 0.24 | 0.01 |
| MCM-36 |  | 28.7 | 729 |  | 0.74 | 0.056 |  | 0.38 | 0.09 | 0.07 |
| MCM-36 |  | 32.5 | 578 |  | 0.444 | 0.047 |  | 0.29 | 0.1 | 0.02 |
| MCM-36 |  | 23.6 | 614 |  | 0.552 | 0.038 |  | 0.44 | 0.129 | 0.02 |
| MCM-56 CEC | | 50 | 283 | 166 | 0.66 | 0.061 |  | 0.078 | 0.125 | 0.034 | 9 |
| Swollen with HDTMA-Cl – tetramethylammonium hydroxide (TMAOH) mixtures | | | | | | | | | | |
| MCM-36 | 4 TMA | 36 | 678 | 644 | 0.57 | 0.019 |  | 0.199 | 0.129 | 0.055 |
| MCM-36 | 2 TMA |  | 661 | 619 | 0.45 | 0.021 |  |  |  |  |
| MCM-36 | 1 TMA | 35 | 633 | 594 | 0.54 | 0.024 |  | 0.105 | 0.176 | 0.058 |
| MCM-36 | HDTMA-OH | 67 | 725 | 616 | 0.70 | 0.061 |  | 0.091 | 0.077 | 0.051 |
| MCM-22 |  | 25 |  |  |  |  |  | 0.263 | 0.189 | 0.035 |
| MCM-36 | 4 TMA | 60 | 593 | 457 | 0.51 | 0.072 |  | 0.146 | 0.065 | 0.026 |
| MCM-36 | 2 TMA | 47 | 595 | 416 | 0.44 | 0.097 |  | 0.126 | 0.109 | 0.063 |
| MCM-22(A) | | 50 | 478 | 55 | 0.364 |  |  | 0.269 | 0.072 | 0.004 | 10 |
| MCM-36(A) | |  | 535 | 115 | 0.33 |  |  | 0.197 | 0.176 | 0.016 |
| MCM-22(B) | | 50 | 484 | 33 | 0.309 |  |  | 0.187 | 0.052 | 0.035 |
| MCM-36(B) | |  | 697 | 162 | 0.564 |  |  | 0.135 | 0.182 | 0.145 |
| MCM-49 |  | 12 | 490 |  |  |  |  | 1.282 | 0.141 | 0.068 | 11 |
| MCM-22 |  | 10 | 542 |  |  |  |  | 1.515 | 0.119 | 0.112 |
| MCM-22 |  | 21 | 418 |  |  |  |  | 0.758 | 0.055 | 0.068 |
| MCM-22 |  | 29 | 481 |  |  |  |  | 0.556 | 0.042 | 0.087 |
| MCM-22 |  | 40 | 329 |  |  |  |  | 0.407 | 0.032 | 0.087 |
| MCM-36 | swell RT | 54 | 789 |  |  |  |  | 0.056 | 0.019 |  | 12 |
| MCM-36 | swell HT | 24 | 862 |  |  |  |  | 0.062 | 0.061 |  |
| MCM-36 | swell RT | 23 | 742 |  |  |  |  | 0.108 | 0.040 |  |

References to Table S3

1. A. Corma, U. Diaz, V. Fornés, J. M. Guil, J. Martínez-Triguero and E. J. Creyghton, *Journal of Catalysis*, 2000, **191**, 218-224.

2. P. Frontera, F. Testa, R. Aiello, S. Candamano and J. B. Nagy, *Microporous and Mesoporous Materials*, 2007, **106**, 107-114.

3. J. Wang, X. Tu, W. Hua, Y. Yue and Z. Gao, *Microporous and Mesoporous Materials*, 2011, **142**, 82-90.

4. Y. Zhou, Y. Mu, M.-F. Hsieh, B. Kabius, C. Pacheco, C. Bator, R. M. Rioux and J. D. Rimer, *Journal of the American Chemical Society*, 2020, **142**, 8211-8222.

5. V. J. Margarit, M. E. Martinez-Armero, M. T. Navarro, C. Martinez and A. Corma, *Angewandte Chemie-International Edition*, 2015, **54**, 13724-13728.

6. W. J. Roth, T. Sasaki, K. Wolski, Y. Song, D. M. Tang, Y. Ebina, R. Z. Ma, J. Grzybek, K. Kalahurska, B. Gil, M. Mazur, S. Zapotoczny and J. Cejka, *Science Advances*, 2020, **6**, Article number eaay8163.

7. K. Kalahurska, P. P. Ziemianski, W. J. Roth and B. Gil, *Molecules*, 2021, **26**, 2076.

8. P. Chlubna, W. J. Roth, A. Zukal, M. Kubu and J. Pavlatova, *Catal. Today*, 2012, **179**, 35-42.

9. W. J. Roth, P. Chlubná, M. Kubů and D. Vitvarová, *Catal. Today*, 2013, **204**, 8-14.

10. B. Gil, B. Marszalek, A. Micek-Ilnicka and Z. Olejniczak, *Top. Catal.*, 2010, **53**, 1340-1348.

11. S. Laforge, P. Ayrault, D. Manin and M. Guisnet, *Appl. Catal., A*, 2005, **279**, 79-88.

12. S. Maheshwari, C. Martínez, M. Teresa Portilla, F. J. Llopis, A. Corma and M. Tsapatsis, *Journal of Catalysis*, 2010, **272**, 298-308.