Supplementary Information (i):

The t-plots for the samples studied. The estimated % microporosity is very small 1-3%
Supplementary Information (ii)

The I-plots for a typical mesoporous solid (MCM-41) and a microporous solid (zeolite Y). In the first case the Inversion point is quite sharp. In the second case is quite smooth.

![Graph showing I-plots for MCM-41 and zeolite Y](image)
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**Supplementary Information (iii)**

The estimation of pore anisotropy $b$ can be done along the next steps [52, 46] based on nitrogen adsorption measurements.

**Step i:** The anisotropy $b_i$ for each group $i$ of pores may be defined as

$$b_i = \frac{L_i}{D_i} = \frac{L_i}{2r_i}$$  \hspace{1cm} (A1)

where $L_i$, $D_i$ and $r_i$ are the length, the diameter and the radius of the group $i$ of pores filled at a relative pressure $P_i (=P_i/P_0)$. Then the following relationship applies

$$L_i = D_i b_i = 2r_i b_i = r_i^{a_i}$$  \hspace{1cm} (A2)

where $a_i$ is a very important scaling parameter to be determined.

**Step ii:** At each particular pressure $P_i (=P_i/P_0)$ the differential specific surface area $S_i$ as well as the differential specific pore volume $V_i$ are estimated from nitrogen adsorption measurements via a standard algorithm, for example the BJH methodology [29].

**Step iii:** Then the dimensionless parameter $S_i^3/V_i^2$ may be calculated, which for cylindrical pores takes the form

$$\frac{S_i^3}{V_i^2} = \left[ \frac{N_i(2\pi r_i)L_i}{N_i(\pi r_i^2)L_i} \right]^3 = \left[ \frac{N_i(2\pi r_i)(2r_i b_i)}{N_i(\pi r_i^2)(2r_i b_i)} \right]^3 = 16\pi b_i N_i =$$

$$= \left[ \frac{N_i(2\pi r_i)(r_i^{a_i})}{N_i(\pi r_i^2)(r_i^{a_i})} \right]^3 = 16\pi N_i \left( \frac{r_i^{a_i-1}}{2} \right)^3$$  \hspace{1cm} (A3)

where $N_i$-the number of pores filled with $N_2$ at each pressure $P_i (=P_i/P_0)$ having radius $r_i$ and diameter $D_i$.

**Step iv:** The term

$$\lambda_i = \left( \frac{S_i^3}{16\pi V_i^2} \right) = N_i b_i$$  \hspace{1cm} (A4)

corresponds to the *total anisotropy* $\lambda_i$ of the group $N_i$ of the pores with anisotropy $b_i$. The equation (A4) in combination with equation (A3) after taking logarithms, obtains the form

$$\log(\lambda_i) = \log \left( \frac{N_i}{2} \right) + (a_i - 1) \log r_i$$  \hspace{1cm} (A5)

**Step v:** The slopes $(a_i-1)$ in equation (A5) are calculated from the lines $\log(\lambda_i)$ vs $\log r_i$. Then, the values of anisotropy $b_i$ for each group $i$ of pores are given by the simple relationship

$$b_i = 0.5 \times r_i^{(a_i-1)}$$  \hspace{1cm} (A6)