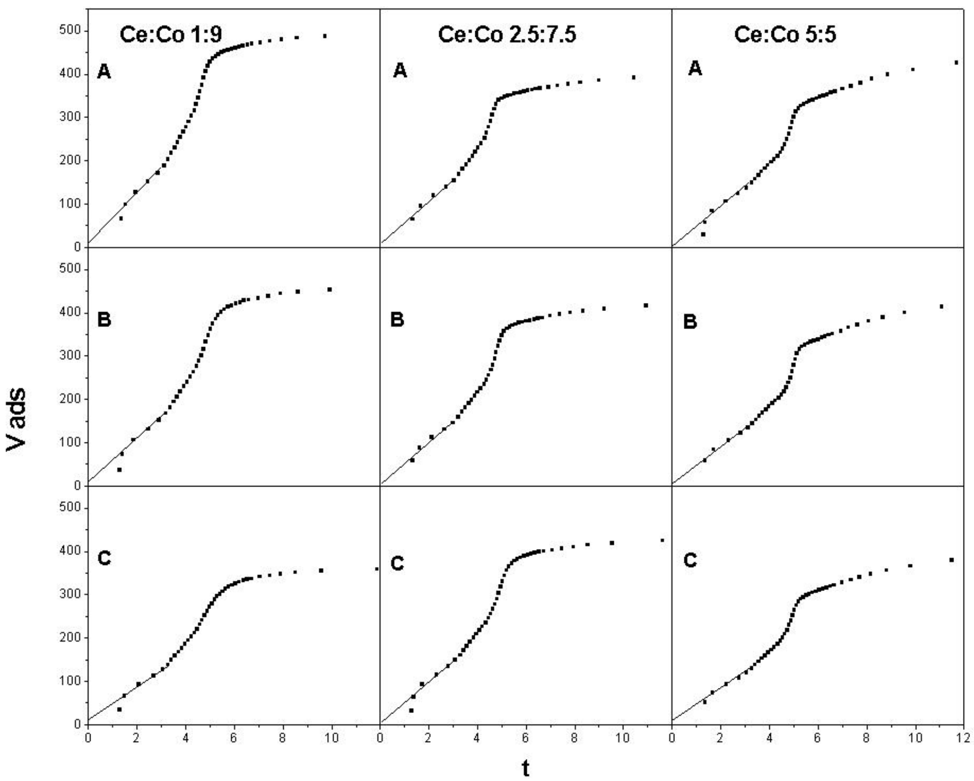
Supplementary Material (ESI) for *Journal of Materials Chemistry*

Supplementary Information (i):

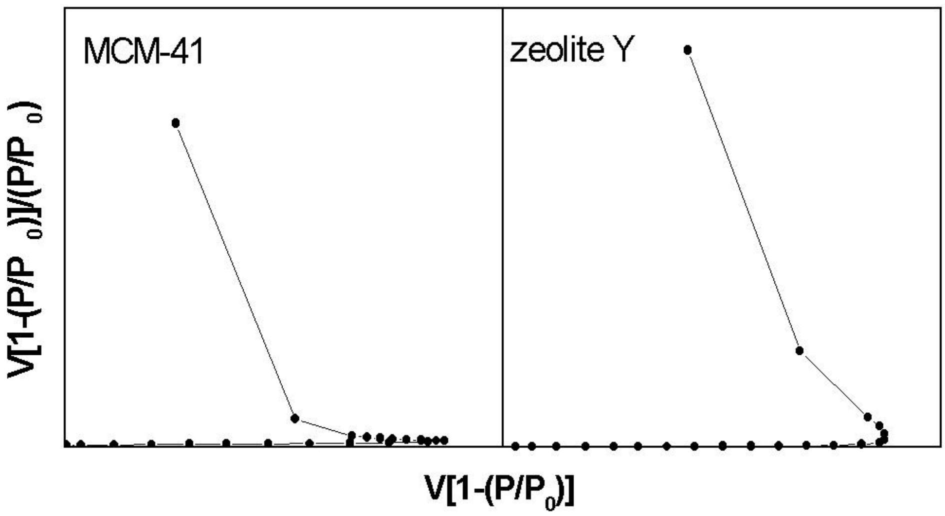
The t-plots for the samples studied. The estimated % microporosity is very small 1-3%



Supplementary Material (ESI) for *Journal of Materials Chemistry*

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 pont is quite sharp. In the second case is quite smooth.



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

$$b_i = L_i / D_i = L_i / 2r_i \qquad \text{(A1)}$$

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

$$L_i = D_i b_i = 2r_i b_i = r_i^{a_i} \qquad \text{(A2)}$$

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

$$\frac{S_i^3}{V_i^2} = \frac{[N_i(2\pi r_i)L_i]^3}{[N_i(\pi r_i^2)L_i]^2} = \frac{[N_i(2\pi r_i)(2r_i b_i)]^3}{[N_i(\pi r_i^2)(2r_i b_i)]^2} = 16\pi b_i N_i =$$
$$= \frac{[N_i(2\pi r_i)(r_i)^{a_i}]^3}{[N_i(\pi r_i^2)(r_i)^{a_i}]^2} = 16\pi N_i\left(\frac{r_i^{a_i-1}}{2}\right) \qquad \text{(A3)}$$

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

$$\lambda_i = \left(S_i^3 \big/ 16\pi V_i^2\right) = N_i b_i \qquad \text{(A4)}$$

corresponds to the *total anisotropy* λ_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

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

Step v: The slopes (α_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

$$b_i = 0.5 * r_i^{(a_i - 1)} \qquad \text{(A6)}$$