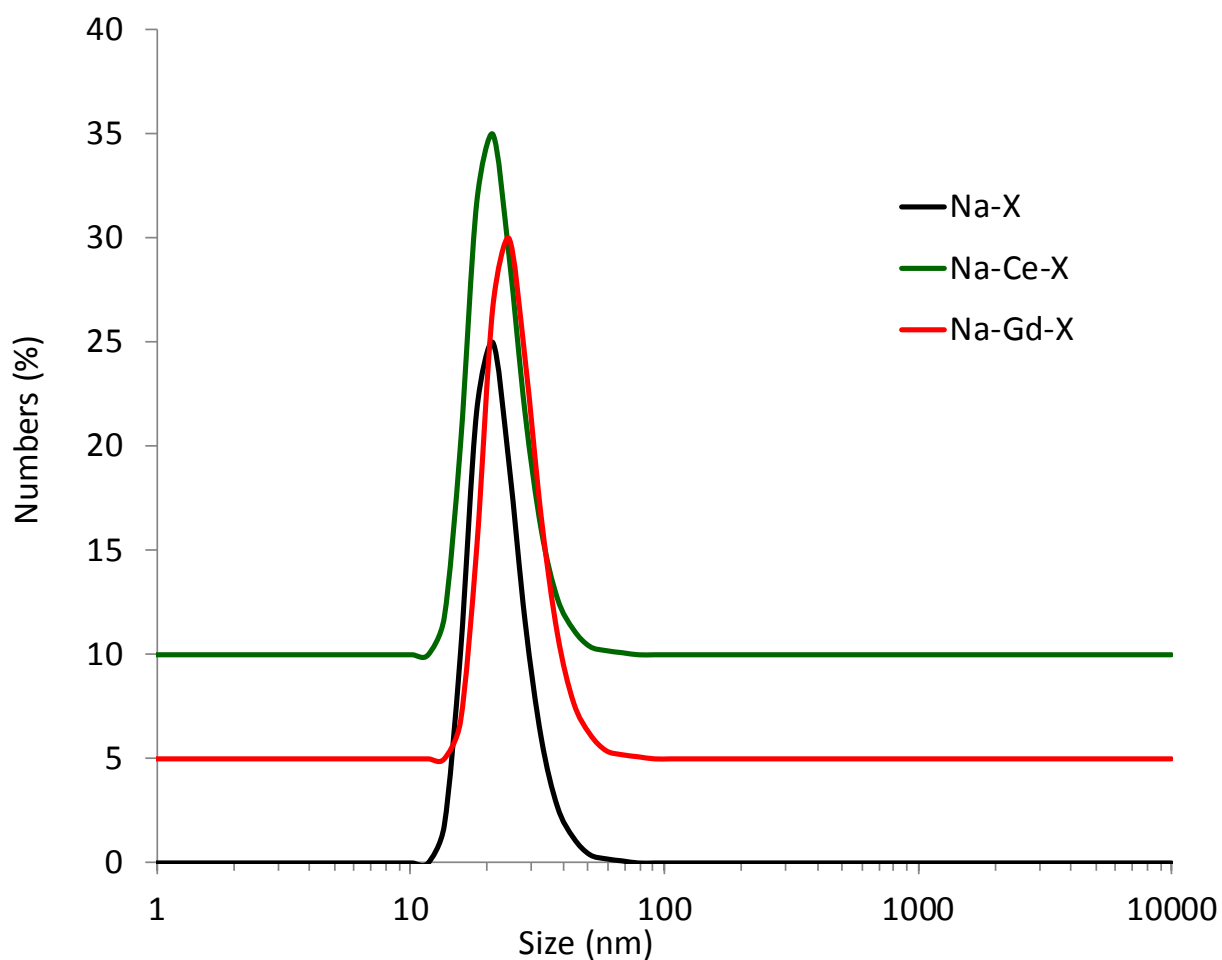


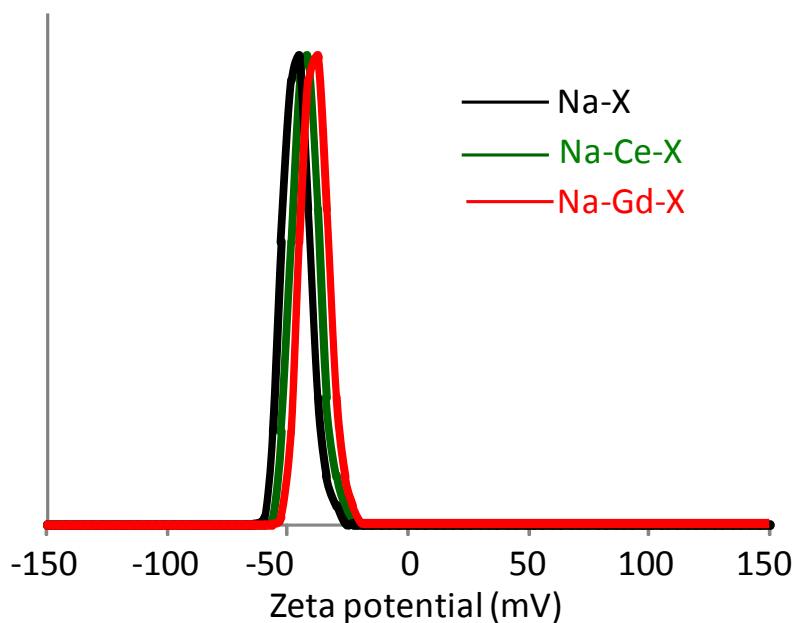
## Supplementary information

Incorporation of trivalent cations in NaX zeolite nanocrystals for the adsorption of  
 $O_2$  in the presence of  $CO_2$

Sarah Komaty,<sup>a</sup> Ayoub Daouli,<sup>b</sup> Michael Badawi,<sup>b</sup> Clément Anfray,<sup>c</sup> Moussa Zaarour,<sup>a</sup> Samuel Valable,<sup>c</sup> Svetlana Mintova<sup>\*a</sup>



**Figure S1.** Particle size distribution of as-synthesized Na-X, cerium and gadolinium ion exchanged zeolites (Na-Ce-X and Na-Gd-X) measured by Dynamic Light Scattering (DLS).



**Figure S2.** Zeta potential curves of as-synthesized Na-X, cerium and gadolinium ion exchanged zeolites (Na-Ce-X and Na-Gd-X).

**Table S1.** External surface area, diameter of micropores and mesopores of the as-synthesized Na-X, and the ion-exchanged Na-Ce-X, and Na-Gd-X zeolite samples.

Sample	$S_{\text{ext}}$ ( $\text{m}^2\cdot\text{g}^{-1}$ )	$d_{\text{mic}}^{\text{a}}$ (nm)	$d_{\text{meso}}^{\text{b}}$ (nm)
<b>Na-X</b>	225	0.70	14.3
<b>Na-Ce-X</b>	217	0.74	16.1
<b>Na-Gd-X</b>	214	0.74	15.1

<sup>a</sup>Diameter of micropore determined by means of NLDFT method. <sup>b</sup>Diameter of mesopore determined by means of BJH method