Supporting Information

Pd/ZEOLITE-BASED CATALYSTS FOR THE PREFERENTIAL CO OXIDATION REACTION: ION-EXCHANGE, Si/Al AND STRUCTURE EFFECT.

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Electronic Supplementary Material (ESI) for Catalysis Science & Technology.
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Support characterisation

- XRD analyses

![Figure S1](image)

**Figure S1.** XRD diffractograms of the catalyst supports: a) ZSM-5-based samples and b) Y-based samples.

As it was expected, the ion exchange steps (and the heat treatment performed to convert the ammonium form of the ZSM-5 zeolite in the acid counterpart) did not modify the zeolites crystallinity, as it could be extracted from the comparison between the XRD patterns collected in the literature (See Figure S1) (MFI topology: main peaks at $2\Theta = 7.9^\circ, 8.9^\circ, 23.0^\circ, 23.4^\circ$ and $23.9^\circ$; and FAU topology: main peaks at $2\Theta = 6.2^\circ, 10.1^\circ, 11.9^\circ, 15.6^\circ, 18.6^\circ, 20.3^\circ, 23.6^\circ, 26.9^\circ, 30.7^\circ, 31.3^\circ, 32.4^\circ, 34.0^\circ$ [1]) and XRD patterns of the exchanged zeolites. Nevertheless when both zeolites were exchanged with cesium (supports denoted Cs-ZSM-5 and Cs-Y, respectively) a marked decrease in the number and intensity of the XRD peaks is observed compared to the parent commercial zeolites. It should be pointed out that when the ion exchange with cesium is carried out, the used salt contains trace amounts of Ba$^{2+}$, which has been reported to significantly alter the zeolitic structure [2].

**References**
