

Effect of Cerium Loading on Structure and Morphology of Modified Ce-USY Zeolites

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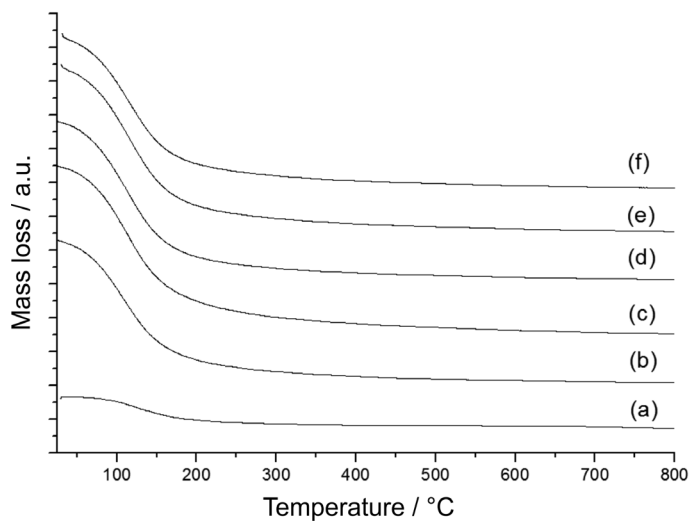


Figure S1. TGA curves of HUSY (a) and Ce-USY catalysts containing 2 (b), 5 (c), 10 (d), 15 (e) and 25 wt.% of CeO₂ (f), all after calcination.

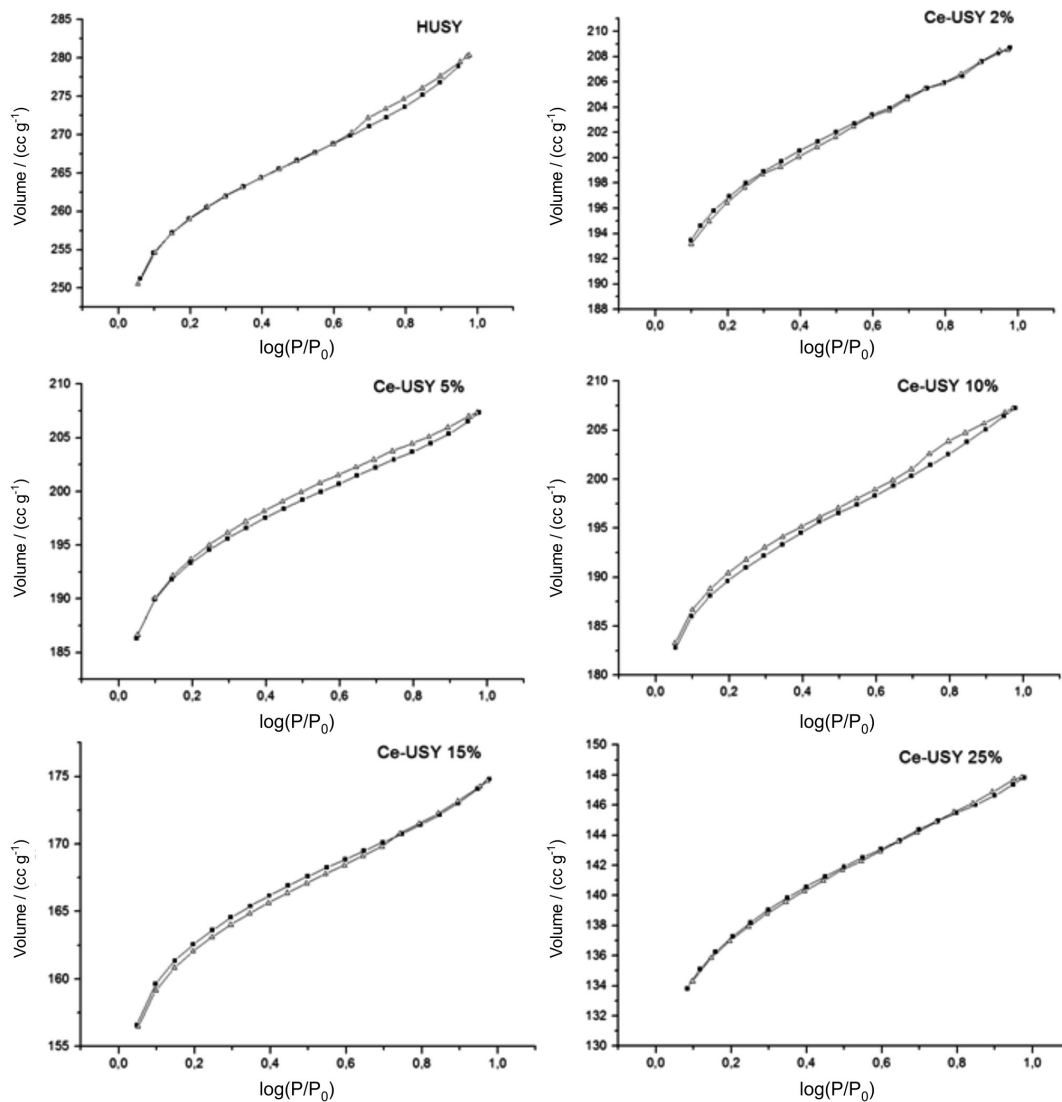


Figure S2. Adsorption and desorption nitrogen isotherms of HUSY (a) and Ce-USY catalysts containing 2 (b), 5 (c), 10 (d), 15 (e) and 25 wt.% of CeO₂ (f).

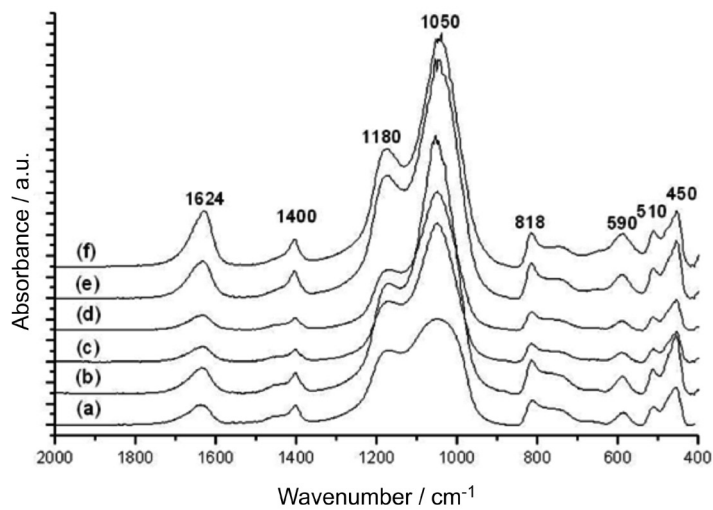


Figure S3. FTIR spectra of HUSY (a) and Ce-USY catalysts containing 2 (b), 5 (c), 10 (d), 15 (e) and 25% wt.% of CeO₂ (f), all before calcination at 550 °C for 8 h.

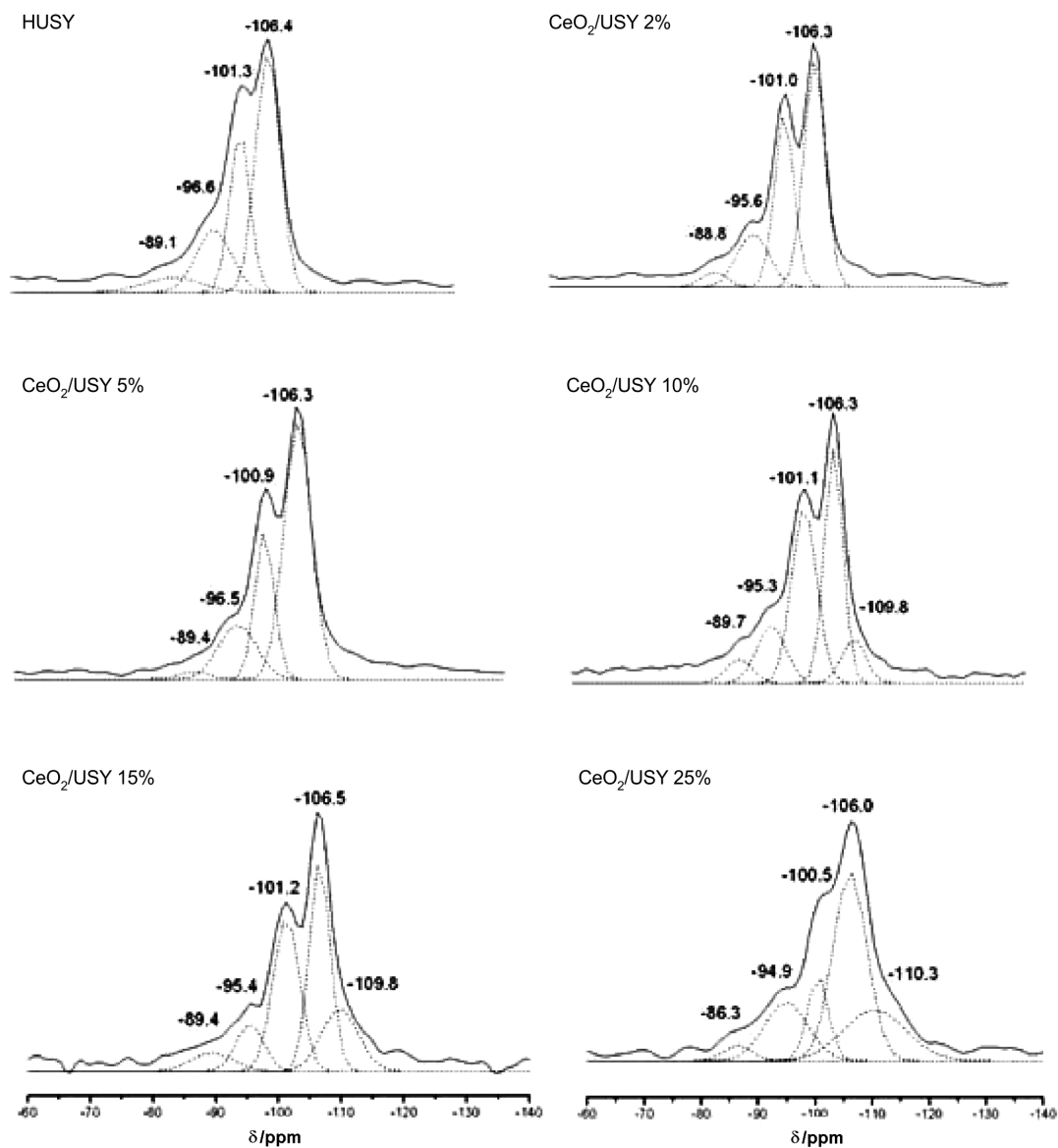


Figure S4. ^{29}Si MAS NMR spectra of HUSY (a) and Ce-USY catalysts calcined at 550 °C for 8 h containing 2 (b), 5 (c), 10 (d), 15 (e) and 25% wt.% of CeO_2 (f).

Table S1. ^{29}Si MAS NMR deconvolution results for HUSY and Ce-USY (2-25 wt.% of CeO_2) calcined at 550 °C for 8 h

Sample ^a	Si(3Al)	Si(2Al)	Si(1Al)	Si(0Al)	SiO_2^b
0	0.023	0.129	0.335	0.476	0.036
2	0.033	0.107	0.365	0.459	0.037
5	0.019	0.097	0.337	0.487	0.060
10	0.036	0.109	0.336	0.442	0.078
15	0.025	0.092	0.323	0.437	0.123
25	0.041	0.120	0.278	0.456	0.105

^aNominal CeO_2 loading (wt.%) on USY; ^bpolymeric SiO_2 species.