

## Supplementary information

### **In-depth investigating of the Initiation Sites and Steps of Carbon Deposition on CeY Zeolites in FCC Hydrogen Transfer Reactions**

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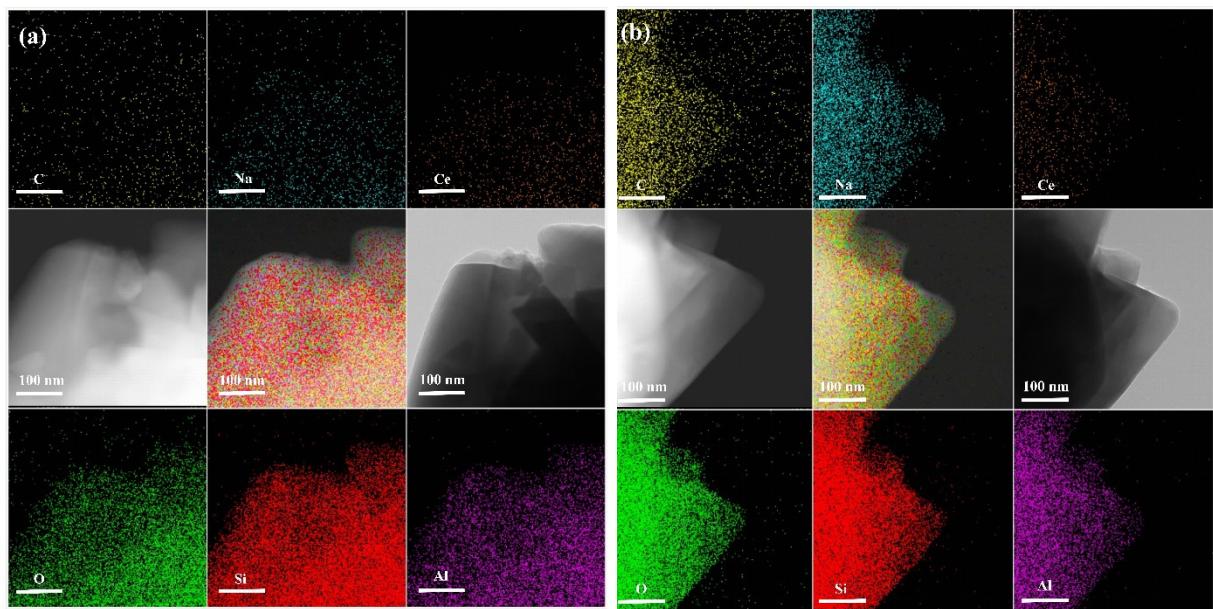
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**Fig.S1 TEM/STEM-Mapping images: (a)  $\text{Ce}_{0.01}\text{Y}$ -carbon deposits (b)  $\text{Ce}_{0.075}\text{Y}$ -carbon deposits.**

**Table S1 Comparison of coke selectivity over different catalysts from work and literature.**

Catalyst	Conversion (%)	Coke Yield(%)	Refs
$\text{Ce}_{0.01}\text{Y}$	68.84	13	Present work
NaY(commercial catalyst)	15	7.5	Present work
HY	26	--	[27]
0.05CeY	35	--	[27]
ZSM-5	--	19.2	[46]
USHY	58	11.5	[47]
LaY	67.9	--	[34]