

# Supporting Information

## Decomposition of nitrous oxide over Co-zeolite catalysts: role of zeolite structure and active site

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This Supporting Information includes:

1. Table S1

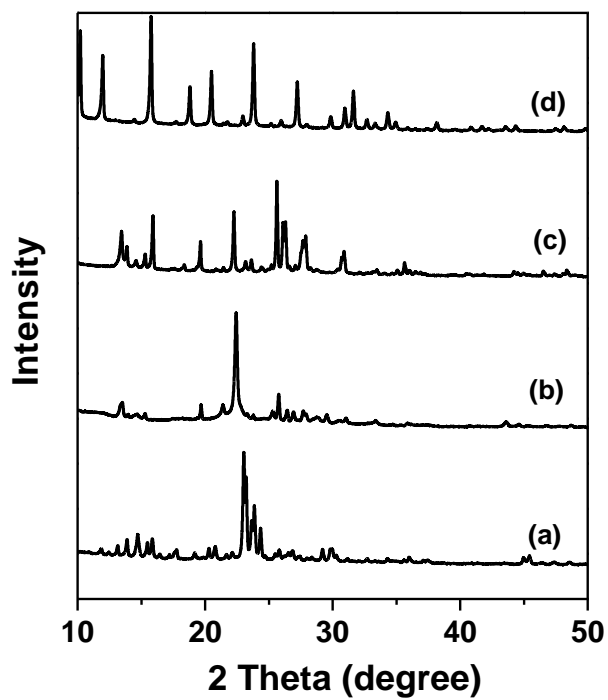
2. Figure S1

Table S1 Percentage of subband areas derived by deconvoluting UV-vis spectra and corresponding Co species loading

Catalyst	<sup>a</sup> I <sub>α</sub>	<sup>a</sup> I <sub>β</sub>	<sup>a</sup> I <sub>γ</sub>	<sup>a</sup> I <sub>Co</sub>	<sup>a</sup> I <sub>Co3O4</sub>	<sup>a</sup> I <sub>CoO</sub>	<sup>b</sup> Coα	<sup>b</sup> Coβ	<sup>b</sup> Coγ	<sup>b</sup> Co <sup>2+</sup>	<sup>b</sup> Co <sub>3</sub> O <sub>4</sub>	<sup>b</sup> CoO <sub>x</sub>
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Co-ZSM-5 <sub>16</sub>	10.33	68.94	5.27	84.54	13.46	0.00	0.04	0.24	0.02	0.30	0.05	0.00
Co-ZSM-5 <sub>24</sub>	10.12	60.44	9.10	79.66	15.86	4.48	0.06	0.33	0.05	0.44	0.09	0.02
Co-BEA <sub>24</sub>	11.76	52.71	10.3	73.77	23.67	0.00	0.07	0.32	0.06	0.45	0.14	0.00
Co-BEA <sub>30</sub>	4.57	54.04	4.33	62.94	30.42	6.64	0.03	0.35	0.03	0.40	0.19	0.04
Co-MOR <sub>52</sub>	22.18	60.35	1.56	83.75	14.25	2.00	0.50	1.36	0.04	1.89	0.32	0.05
Co-MOR <sub>70</sub>	3.27	75.16	1.33	79.7	21.3	0.00	0.10	2.32	0.04	2.46	0.66	0.00
Co-USY <sub>36</sub>	3.57	7.14	7.14	17.86	62.5	20.83	0.03	0.06	0.06	0.15	0.53	0.17
Co-USY <sub>42</sub>	3.06	19.39	0.00	22.45	39.8	37.45	0.03	0.19	0.00	0.22	0.39	0.37

<sup>a</sup> Calculated from the data in Fig. 4.

<sup>b</sup> in wt. %.



**Fig. S1** XRD patterns of Co-ZSM-5<sub>24</sub> (a), Co-BEA<sub>30</sub> (b), Co-MOR<sub>70</sub> (c), and Co-USY<sub>42</sub> (d).