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Fig. 1S The selectivity of N<sub>2</sub>O formation over the fresh catalysts.



Fig. 2S XRD patterns of CZ supports calcined at 500 °C (A)

Table 1S Textural and structural properties of fresh CZ supports

Sample	Lattice parameter (A)	Phase	Crystallite size (nm)
CZ41	a=b=c=5.403	cubic	8.8
CZ21	a=b=c=5.409;	cubic	10.7
	a=b=3.708, c=5.343	tetragonal	4.9
CZ11	a=b=3.726, c=5.294	tetragonal	4.5
CZ12	a=b=3.679, c=5.273	tetragonal	5.0
CZ14	a=b=3.625, c=5.218	tetragonal	6.7



Fig. 3S DRIFTS spectra collected at different temperatures during exposure of fresh Pd/CZN12 and Pd/CZ12 catalysts to stoichiometric  $CO + HC + NO_x + O_2$  reaction conditions.