Electronic supplementary information

Promoting effects of MgO, $(NH_4)_2SO_4$ or MoO_3 modification in oxidative esterification of methacrolein over $Au/Ce_{0.6}Zr_{0.4}O_2$ based catalysts

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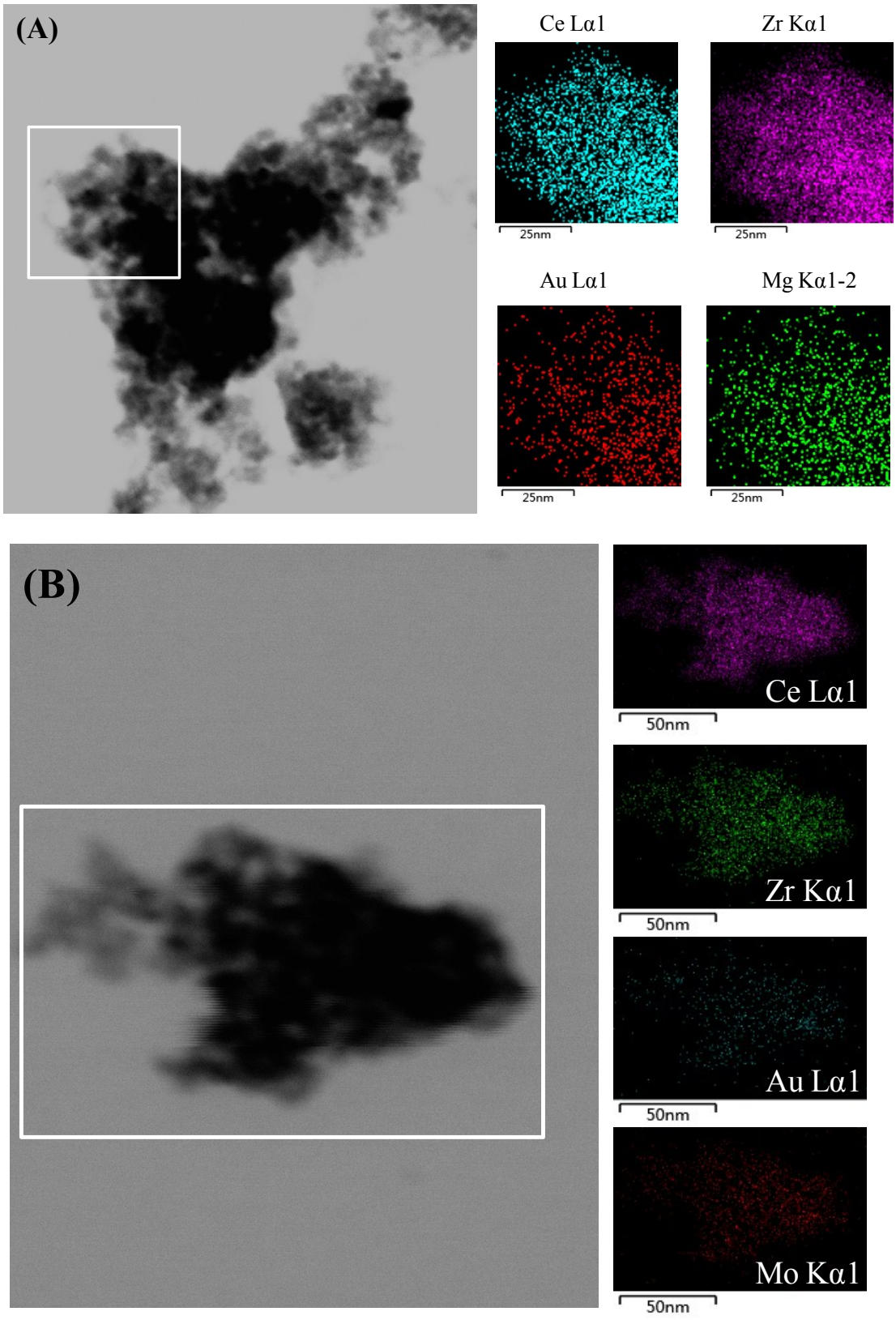

Fig. S1. STEM-EDS elemental mapping of catalysts Au/MgCZ (A) and Au/MoCZ (B).

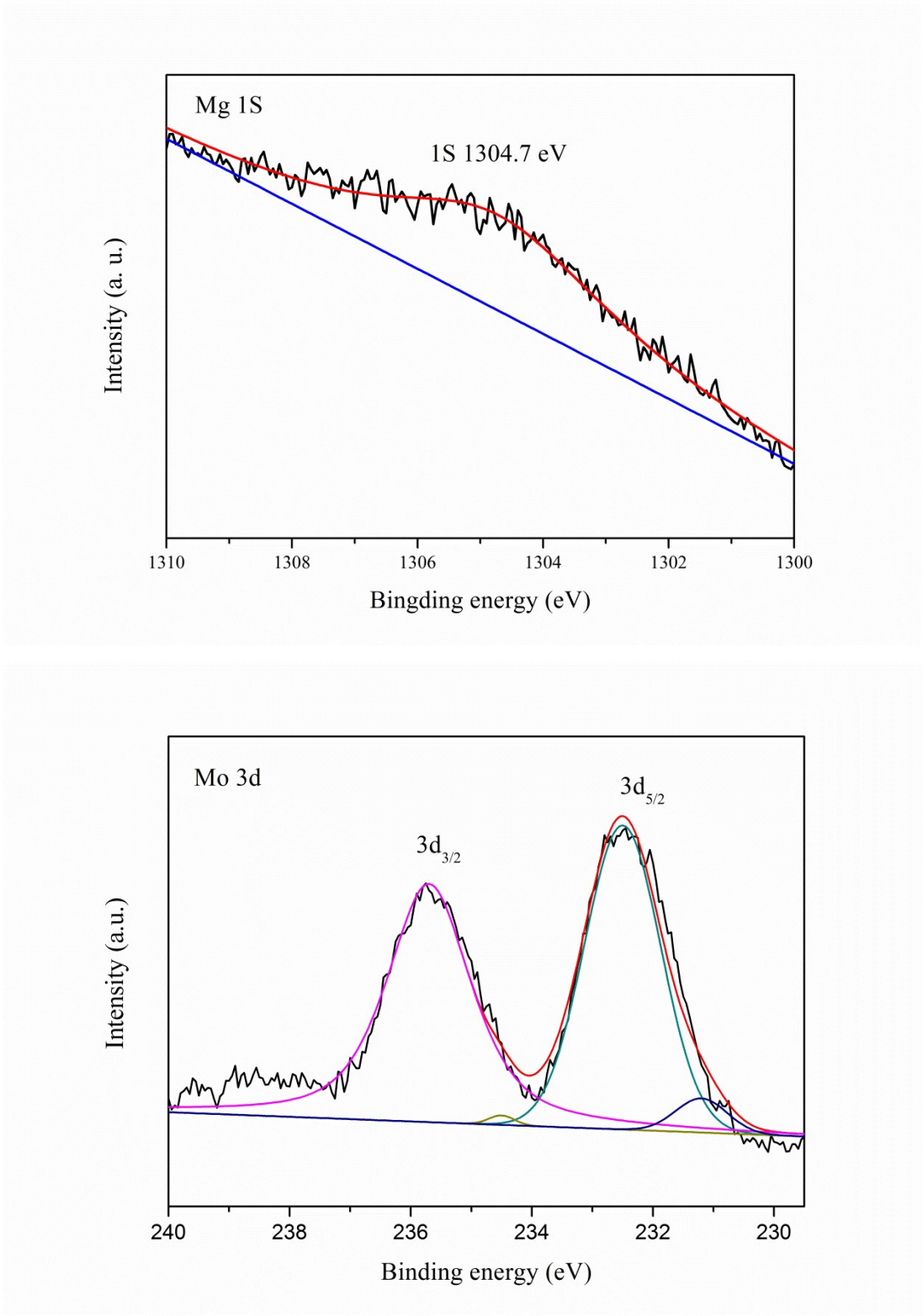

Fig. S2. Mg 1s and Mo 3d XPS spectra of Au/MgCZ and Au/MoCZ catalysts, respectively.

Table S1 Reaction performance without catalyst or over MgCZ for the oxidative esterification of MAL with methanol[a]

Catalyst	Conversion (%)	Selectivity[c] (%)	
		MMA	acetal
None	21	0	3
MgCZ[b]	29	0	4

[a] Reaction conditions: CH_3OH:MAL = 20:1 (molar ratio); CH_3OH, 15 mL; P (O_2) = 0.2 MPa; T = 343 K; t = 2 h.

[b] MgCZ, 0.50g.

[c] MMA, methyl methacrylate; acetal, 1,1-dimethoxy-2-methylpropylene.