

Supporting information

Efficient reduction of CO₂ and inhibition of hydrogen precipitation by polymetallic oxalate photocatalysts modified with the metal Mn

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	Reduce d Chi- square (χ_v^2)	R- factor (%)	amp/ S_0^2	$N_{(V-O \text{ path})}$	$R_{(V-O \text{ path})}$ (Å)	$\sigma^2_{(V-O \text{ path})}$ (10^{-3}Å^2)	ΔE_0 (eV)
V Mn ₆ V ₁₂	376.61	0.0478	0.86 +/- 0.12	5	1.722± 0.031	2.4+/-1.1	2.41+/ -1.24
			amp/ S_0^2	$N_{(V-O-B \text{ path})}$	$R_{(V-O-B \text{ path})}$ (Å)	$\sigma^2_{(V-O-B \text{ path})}$ (10^{-3}Å^2)	ΔE_0 (eV)
			0.98 +/- 0.11	4	3.218± 0.088	2.6+/-1.1	2.32+/ -1.45
			amp/ S_0^2	$N_{(V-O-V \text{ path})}$	$R_{(V-O-V \text{ path})}$ (Å)	$\sigma^2_{(V-O-V \text{ path})}$ (10^{-3}Å^2)	ΔE_0 (eV)
			0.91 +/- 0.12	2	3.381 ± 0.072	2.1+/-0.9	2.11+/ -1.09
Mn	478.94	0.0116	0.81 +/- 0.06	4	2.101 ± 0.048	2.5+/-1.2	2.16+/ -1.33
			amp/ S_0^2	$N_{(Mn-C \text{ path})}$	$R_{(Mn-C \text{ path})}$ (Å)	$\sigma^2_{(Mn-C \text{ path})}$ (10^{-3}Å^2)	ΔE_0 (eV)
			0.88 +/- 0.08	2	2.265± 0.032	2.1+/-0.9	2.56+/ -1.21
			amp/ S_0^2	$N_{(Mn-O-B \text{ path})}$	$R_{(Mn-O-B \text{ path})}$ (Å)	$\sigma^2_{(Mn-O-B \text{ path})}$ (10^{-3}Å^2)	ΔE_0 (eV)

				(Å)	(10 ⁻³ Å ²)	(eV)	
			0.93 +/- 0.12	1	3.275± 0.061	3.2+/-1.4	2.78+/ -1.38
			amp/ S ₀ ²	N _(Mn-N-C path)	R _(Mn-N-C path) (Å)	σ ² _(Mn-N-C path) (10 ⁻³ Å ²)	ΔE ₀ (eV)
			0.94 +/- 0.11	4	3.327± 0.038	3.3+/-1.1	2.81+/ -1.45

Table S1 : Fitting parameters of Mn₆V₁₂