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Supporting information

Unravelling the reaction chemistry and degradation mechanism in aqueous Zn/MnO2 rechargeable batteries

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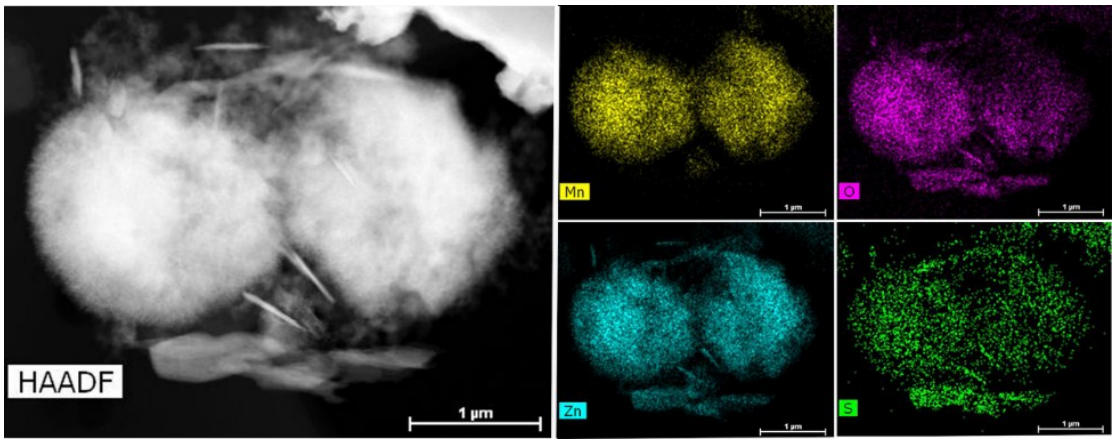

Figure S1. HAADF-STEM image and EDX maps of sample at stage *c2*.

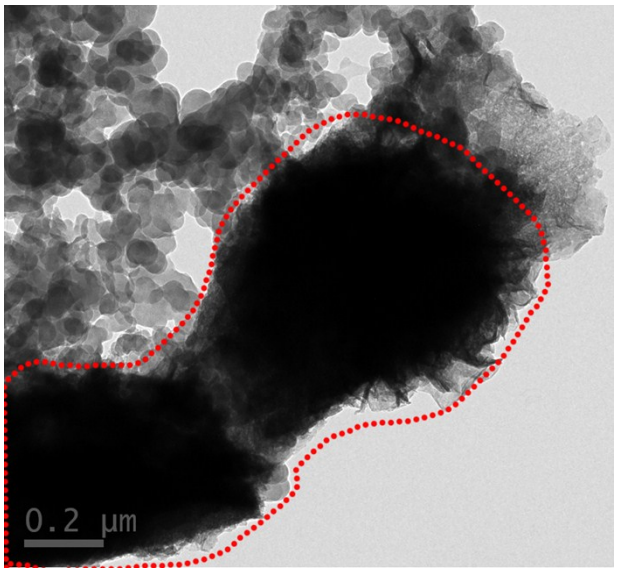

Figure S2. TEM BF image of the fully discharged cathode (stage *c7*).

Table S1. XPS results for the cathodes under different states of charge (SOCs)

SOC	Zn 3p		O1s (Mn-O band)		Mn 3s	
	Binding energy (eV)	FWHM (eV)	Binding energy (eV)	FWHM (eV)	Binding energy (eV)	FWHM (eV)
c1	89.68	3.5	-	-	-	-
c2	88.93	3.00	530.10	1.06	85.26	3.5
c3	88.99	2.77	530.07	1.10	85.07	3.5
c4	88.10	2.75	529.96	1.08	84.75	3.5
c5	88.73	2.77	529.96	1.16	84.68	3.5
c6	88.91	2.84	529.93	0.96	84.93	3.5
c7	89.24	3.10	529.91	0.93	84.97	3.5