Supporting Information

Lattice Compensation to Jahn-Teller Distortion in Na-rich Manganese Hexacyanoferrate for Li-ion Storage: An Operando Study

Angelo Mullaliu ^{a,b,§}, Mattia Gaboardi ^{c,§}, Jasper Rikkert Plaisier ^c, Stefano Passerini ^{a,b,*}, Marco Giorgetti ^{d,*}

^a Helmholtz Institute Ulm (HIU), Helmholtzstrasse 11, 89081, Ulm, Germany

- ^b Karlsruhe Institute of Technology (KIT), P.O. Box 3640, 76021, Karlsruhe, Germany
- ^c Elettra Sincrotrone Trieste S.C.p.A., ss 14, km 163.5, 34149 Trieste, Basovizza, Italy

^d Department of Industrial Chemistry "Toso Montanari", University of Bologna, Viale Risorgimento 4, 40136 Bologna, Italy

* Corresponding authors.

Email: marco.giorgetti@unibo.it

Email: stefano.passerini@kit.edu



Figure S1. Comparison between the XRPD patterns for the pristine (t=0) electrode, and after the first (t=5 h) and second (10 h) plateaus during the first charge. $P2_1/n$ reflections are highlighted by black vertical tick marks.



Figure S2. Crystallographic planes relative to reflections 020, $21\overline{1}$, 211, and 022 in the P2₁/n structure of MnHCF. Manganese (purple), iron (orange), sodium (green), carbon (grey), nitrogen (blue), and oxygen (red).

Time / h	Alkali ion equivalent	Specific capacity / mAh g ⁻¹
0 (pristine)	1.9	0
5	0.97	75
9.7 (end of charge)	0.09	145.5
15	1.08	79.5
18.6 (end of discharge)	1.75	133.5
20	1.49	21
25	0.56	96
27.7 (end of charge)	0.055	136.5
30	0.48	34.5
35	1.41	109.5
36.4 (end of discharge)	1.68	130.5

Table S1. Relation between the recording time, the alkali ion content, and the specific capacity.