Supplementary Information

Biotemplating: A Sustainable Synthetic Methodology for Na-ion Battery Materials

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Table S1. Surface areas and pore volumes derived from nitrogen adsorption isotherms (at 77K)

Calcination		**Physical properties**				
Temp. / °C	**Time / h**	S_{BET}[a] / m^2g^{-1}	S_{meso}[b] / m^2g^{-1}	V_t[c] / cm^3g^{-1}	V_{mic}[d] / cm^3g^{-1}	V_{meso}[e] / cm^3g^{-1}
550	2	108.0	37.8	0.1358	0.0077	0.0559
	5	127.7	45.4	0.1643	0.0888	0.0669
	12	52.9	20.5	0.0970	0.0296	0.0382
650	2	38.6	14.6	0.0535	0.0233	0.0210
	5	36.9	12.7	0.0377	0.0242	0.0158
	12	33.3	11.9	0.0297	0.0233	0.0135
750	2	38.4	11.9	0.0280	0.0350	0.0113
	5	27.4	8.0	0.0152	0.0326	0.0063
	12	31.6	9.2	0.0190	0.0317	0.0078
850	2	33.8	10.7	0.0212	0.0340	0.0094
	5	33.8	5.1	0.0231	0.0264	0.0689
	12	29.3	9.6	0.0182	0.0235	0.0084
Solid state		21.5	7.4	0.0138	0.0248	0.0065

[a]specific surface area calculated using the BET method [b]mesopore surface area determined using BJH method

[c]total pore volume calculated at $P/P_0>0.99$ [d]micropore volume determined using the Dubinin Astakhov method

[e]mesopore volume determined using BJH method

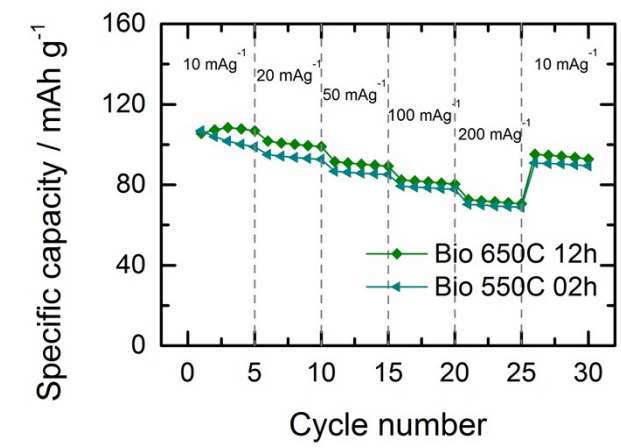

Figure S1. Specific discharge capacities of biotemplated $Na_{2/3}Ni_{1/3}Mn_{2/3}O_2$ calcined at 650 °C for 12 h, and 550 °C 2h at rates between 10 mAg^{-1} and 200 mAg^{-1}.

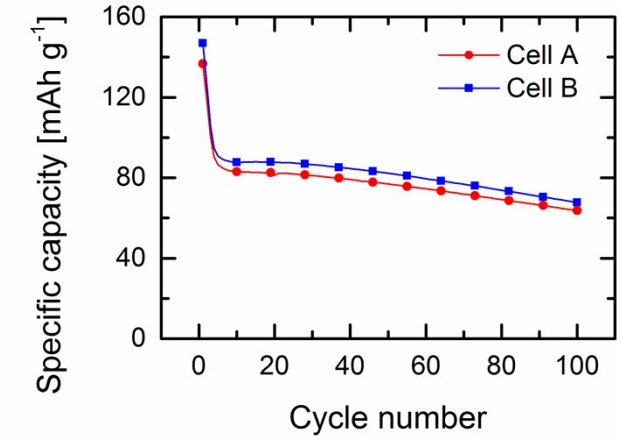

Figure S2. Extended cycling behaviour for two cells containing biotemplated $Na_{2/3}Ni_{1/3}Mn_{2/3}O_2$ calcined at 850 °C for 12 h, at a rate of 10 mAg^{-1}.

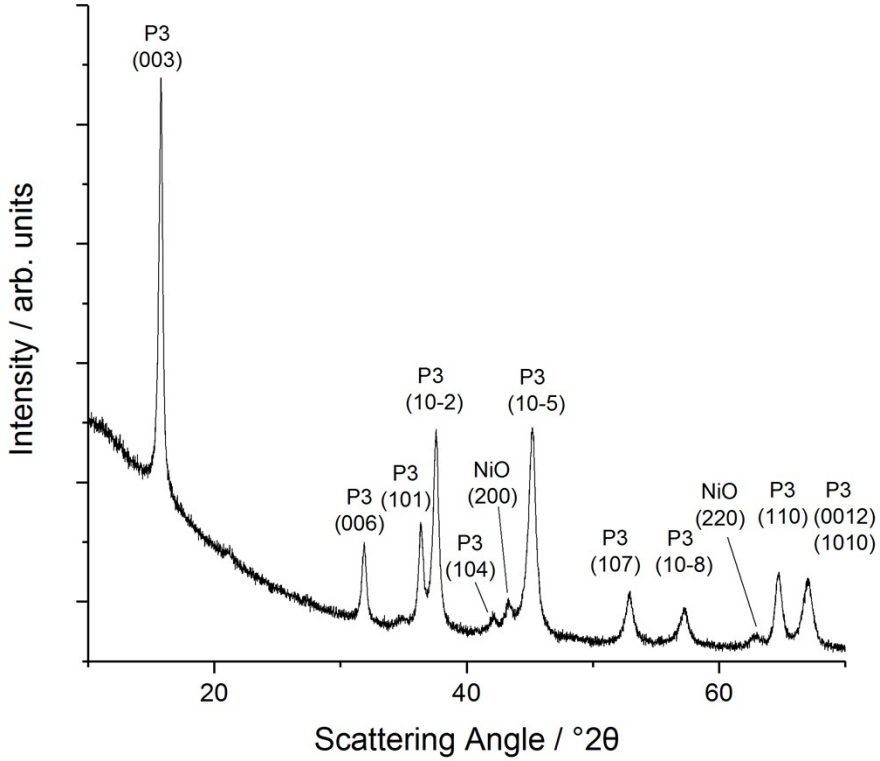

Figure S3a – Indexed diffraction pattern for biotemplated $Na_{2/3}Ni_{1/3}Mn_{2/3}O_2$ calcined at 550 °C for 12 h

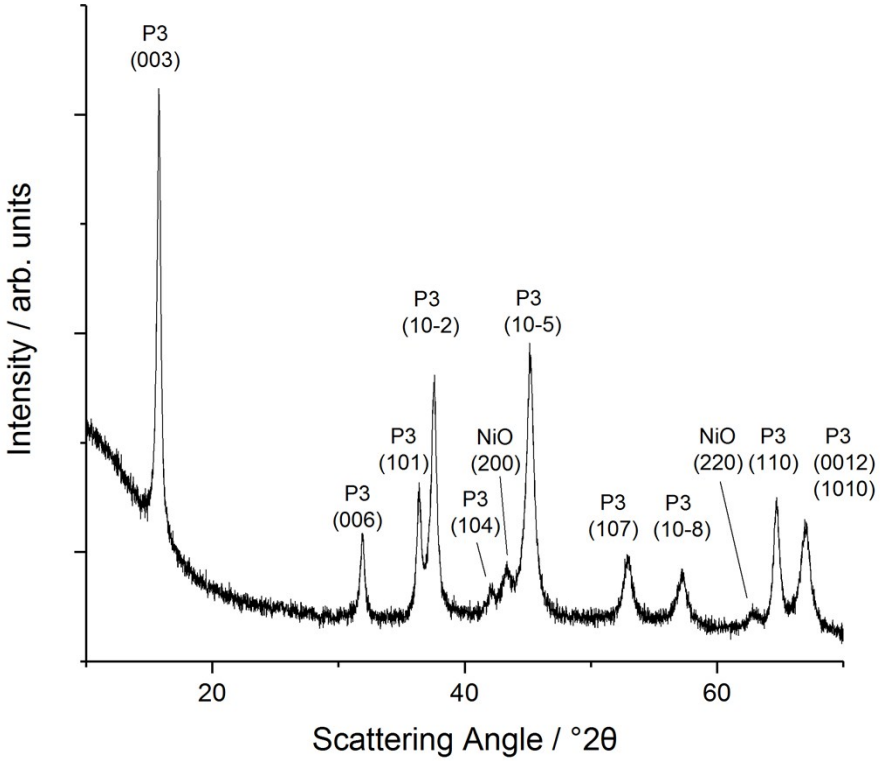

Figure S3b – Indexed diffraction pattern for biotemplated $Na_{2/3}Ni_{1/3}Mn_{2/3}O_2$ calcined at 650 °C for 2 h

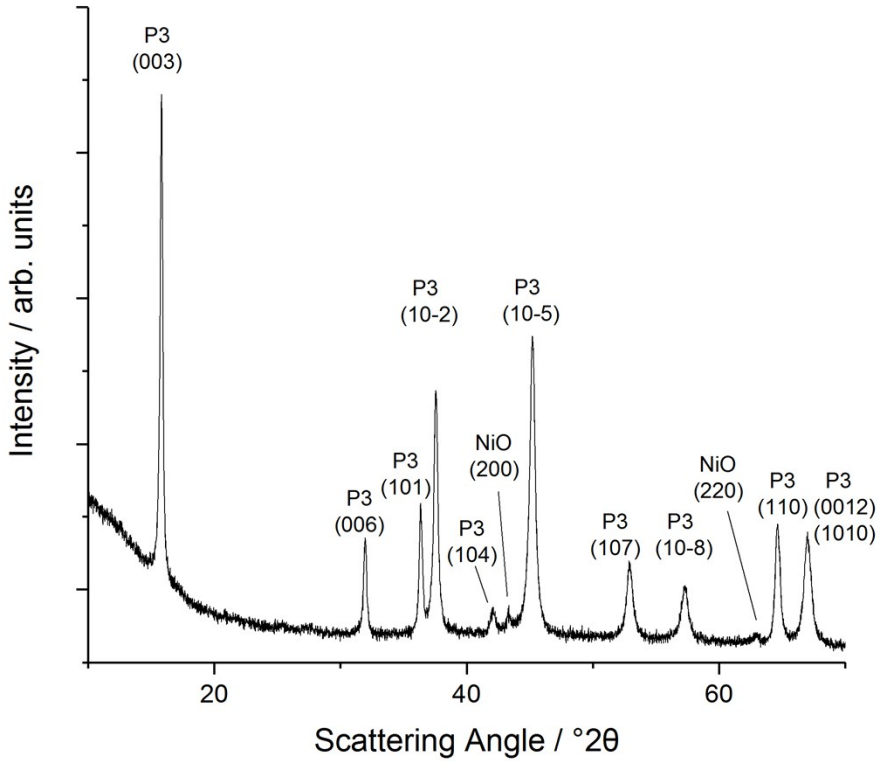

Figure S3c – Indexed diffraction pattern for biotemplated $Na_{2/3}Ni_{1/3}Mn_{2/3}O_2$ calcined at 650 °C for 5 h

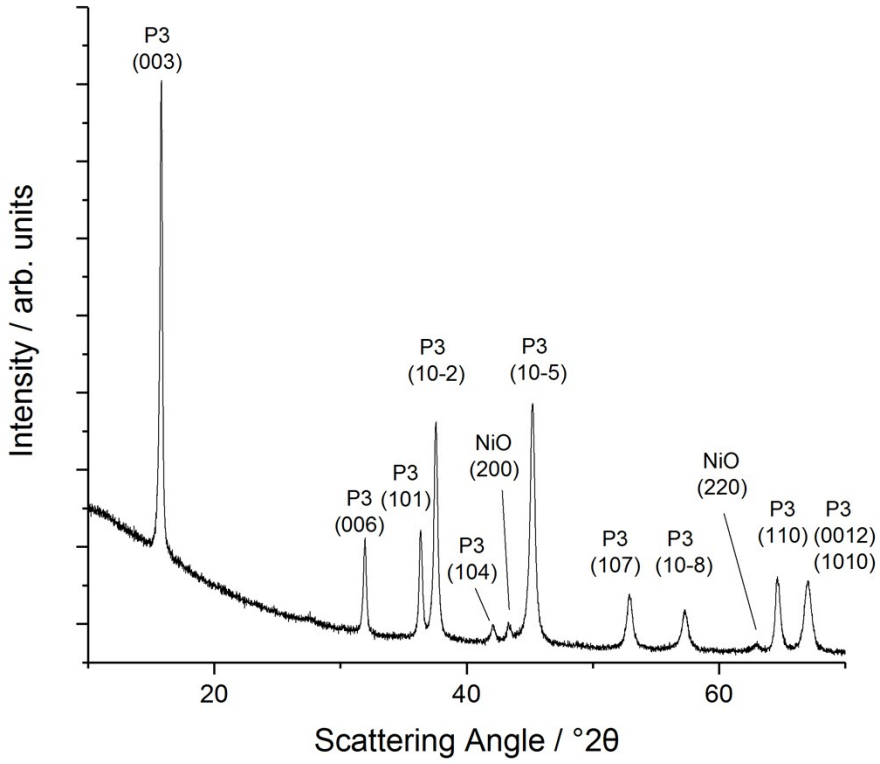

Figure S3d – Indexed diffraction pattern for biotemplated $Na_{2/3}Ni_{1/3}Mn_{2/3}O_2$ calcined at 650 °C for 12 h

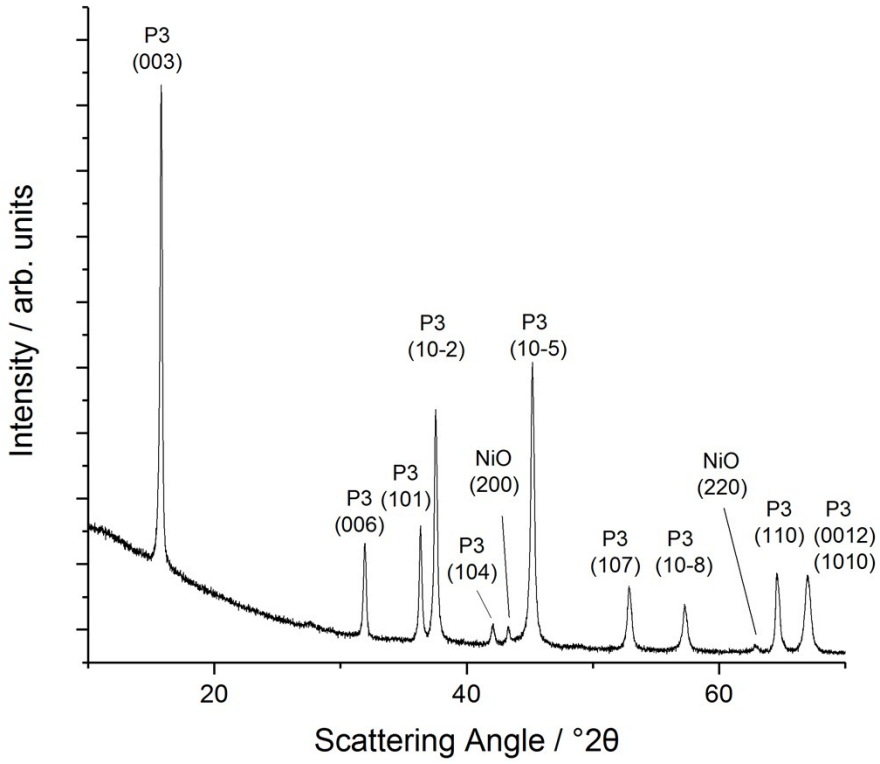

Figure S3e – Indexed diffraction pattern for biotemplated $Na_{2/3}Ni_{1/3}Mn_{2/3}O_2$ calcined at 750 °C for 12 h

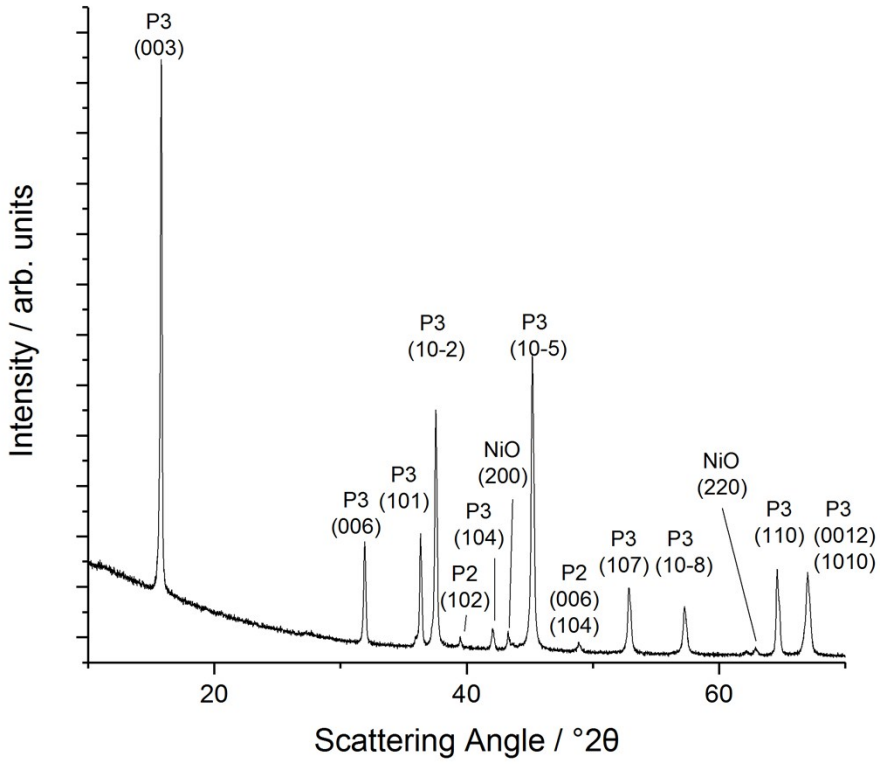

Figure S3f – Indexed diffraction pattern for biotemplated $Na_{2/3}Ni_{1/3}Mn_{2/3}O_2$ calcined at 850 °C for 12 h

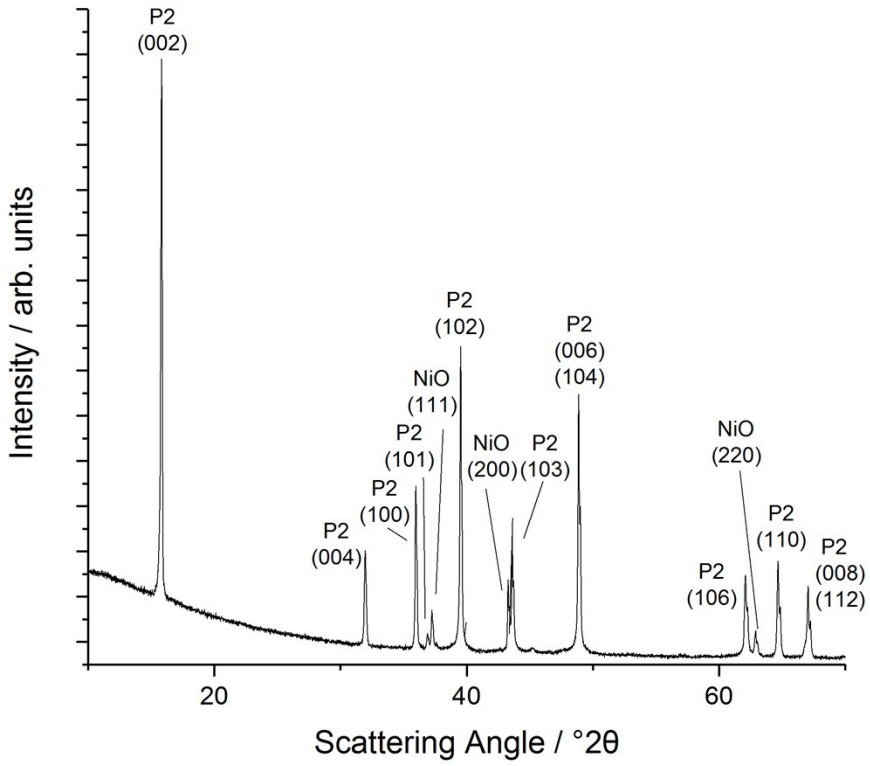

Figure S3g – Indexed diffraction pattern for $Na_{2/3}Ni_{1/3}Mn_{2/3}O_2$ made via solid state reaction, calcined at 850 °C for 12 h