

## SUPPLEMENTARY MATERIAL

### Structure solution of the new titanate $\text{Li}_4\text{Ti}_8\text{Ni}_3\text{O}_{21}$ using precession electron diffraction.

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**Table 1** Atomic position for the trigonal phase obtained by SIR2008 in the space group P-3c1 using precessed electron diffraction data.

Atom	x	y	z
M1	0	0	0.14422
M2	1/3	2/3	0.21777
M3	2/3	1/3	0.07746
M4	1/3	2/3	0.00860
M5	0	0	0.06483
M6	1/3	2/3	0.13164
Li1	-1/3	1/3	0.20420
Li2	0	0	0.23200
O1	-0.26940	0.99328	0.10607
O2	-0.33671	0	1/4
O3	-0.33663	0.71703	0.17815
O4	-0.33355	0.60755	0.03415