Electronic Supplementary Material (ESI) for Inorganic Chemistry Frontiers.

Table S1 Refinement and structure parameters of the CKNLLSO sample

Compound	**CKNLLSO (ICSD #74863)**	**CKNLLSO sample**
Space Group	*I*4/m	*I*4/m
***a*, Å**	11.020(6)	11.0250(1)
***c*, Å**	6.379(5)	6.3775(2)
***V*, Å^3**	774.67	775.19
Z	2	2
2*θ*-interval,°	-	10-130

Table S2 Fractional atomic coordinates and isotropic displacement paramters (Å^2) of the CKNLLSO sample

Atom	**Wyck.**	**x**	**y**	**z**	**Biso**
Cs	2a	0	0	0	0.0650(31)
K	2b	0	0	0.5	0.078(8)
Na	4d	0.5	0	0.25	0.012(6)
Li1	16i	0.1144(22)	0.2447(17)	0.257(5)	0.090(8)
Li2	8h	0.7121(25)	0.9247(28)	0	0.013(10)
Li3	4c	0.5	0	0	0.034(11)
Si	8h	0.2154(10)	0.4213(15)	0	0.097(5)
O1	8h	0.4386(23)	0.1638(23)	0	0.019(12)
O2	8h	0.0973(16)	0.3312(22)	0	0.014(12)
O3	16i	0.7949(6)	0.9029(7)	0.2850(14)	0.0047(21)

Table S3 Main Bond lengths (Å) of the CKNLLSO sample

Chemical bond	Bond length	Count
Cs-O3	3.0924	8
K-O3	2.8529	8
Na-O1	2.5023	4
Na-O2	2.6751	4
Li1-O1	1.9393	1
Li1-O2	1.9056	1
Li1-O3	1.9183	1
Li1-O3	2.3790	1
Li2-O1	1.9268	1
Li2-O2	1.9619	1
Li2-O3	2.0481	2
Li3-O1	2.1481	2
Li3-O2	2.4814	2
Si-O1	1.6460	1
Si-O2	1.6377	1
Si-O3	1.6400	2