

Electronic Supplementary Information

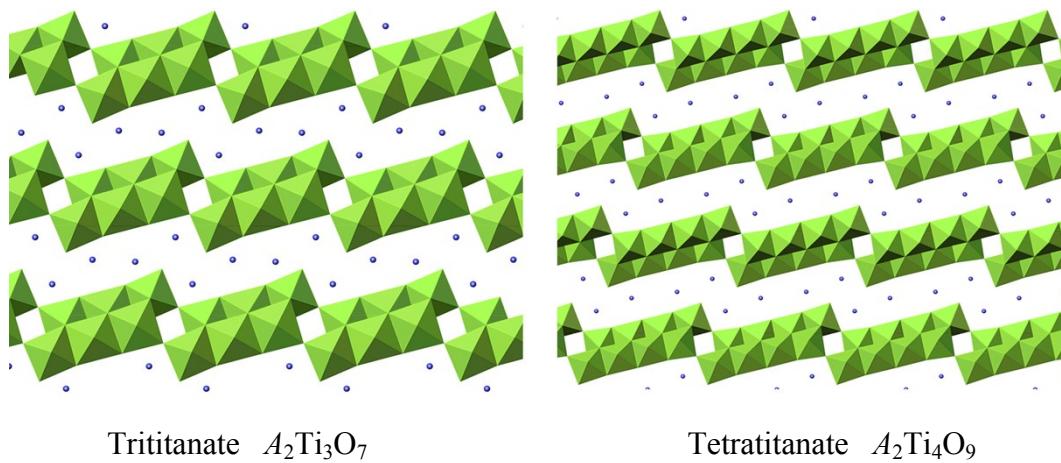
Influence of the negative charge density of metalate nanosheets on their bottom-up synthesis

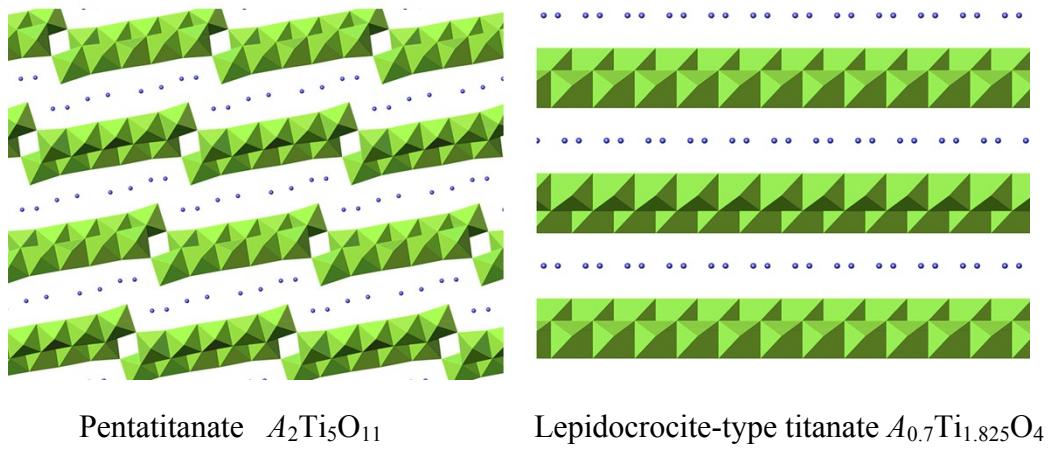
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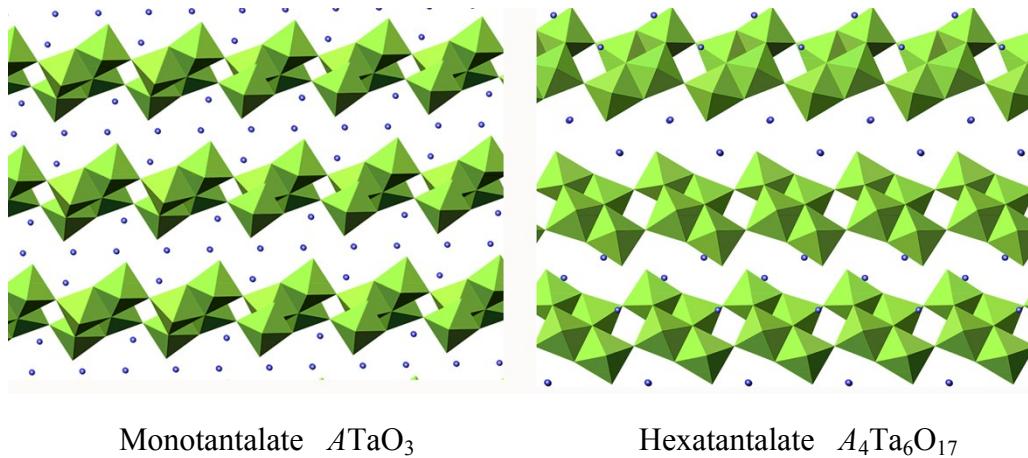
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(a) Different layered titanates





(b) Different layered tantalates



(c) Different layered niobates

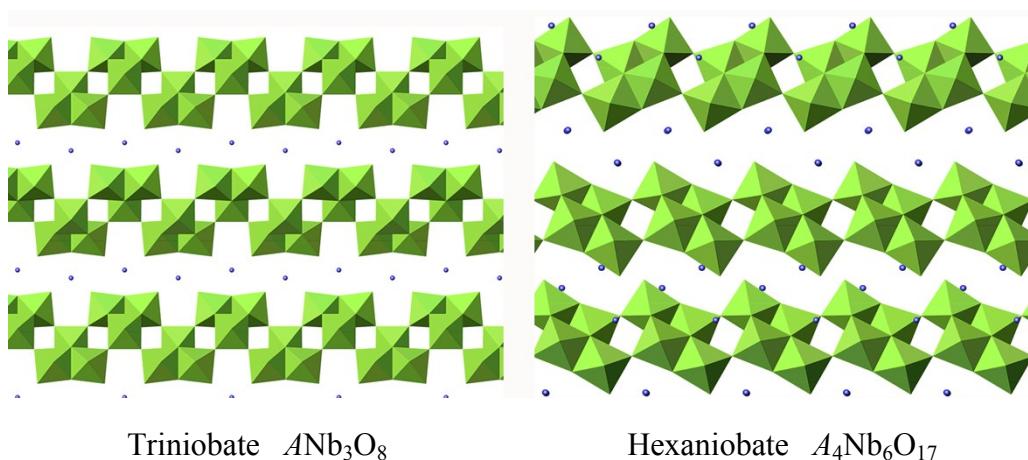
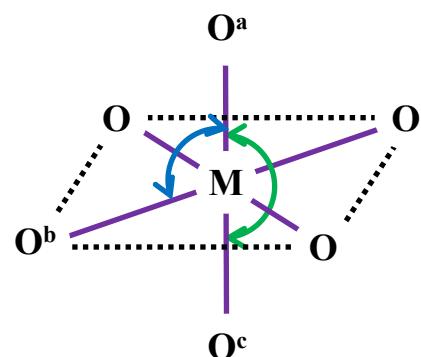


Figure S1 Crystal structures of different layered metalates

Table S1 Distortion of MO_6 ($M = \text{Nb, Ta, and Ti}$) octahedra in layered metalates

	M-O distance [Å]	Standard deviation of M-O [Å]	Average deviation of $O^a\text{-}M\text{-}O^b$ from 90°	Average deviation of $O^a\text{-}M\text{-}O^c$ from 180°
KNb_3O_8	2.03	0.21	10.1°	19.4°
$\text{K}_4\text{Nb}_6\text{O}_{17}$	2.03	0.19	8.2°	16.7°
$\text{Rb}_4\text{Nb}_6\text{O}_{17}$	2.01	0.16	7.9°	16.7°
RbTaO_3	1.99	0.11	6.6°	15.6°
$\text{Na}_2\text{Ti}_3\text{O}_7$	1.99	0.18	6.8°	14.3°
$\text{Tl}_2\text{Ti}_4\text{O}_9$	1.98	0.14	9.6°	18.3°
$\text{Cs}_2\text{Ti}_5\text{O}_{11}$	2.01	0.19	9.4°	17.5°
Cs-lepidocrocite	1.99	0.13	9.1°	16.4°



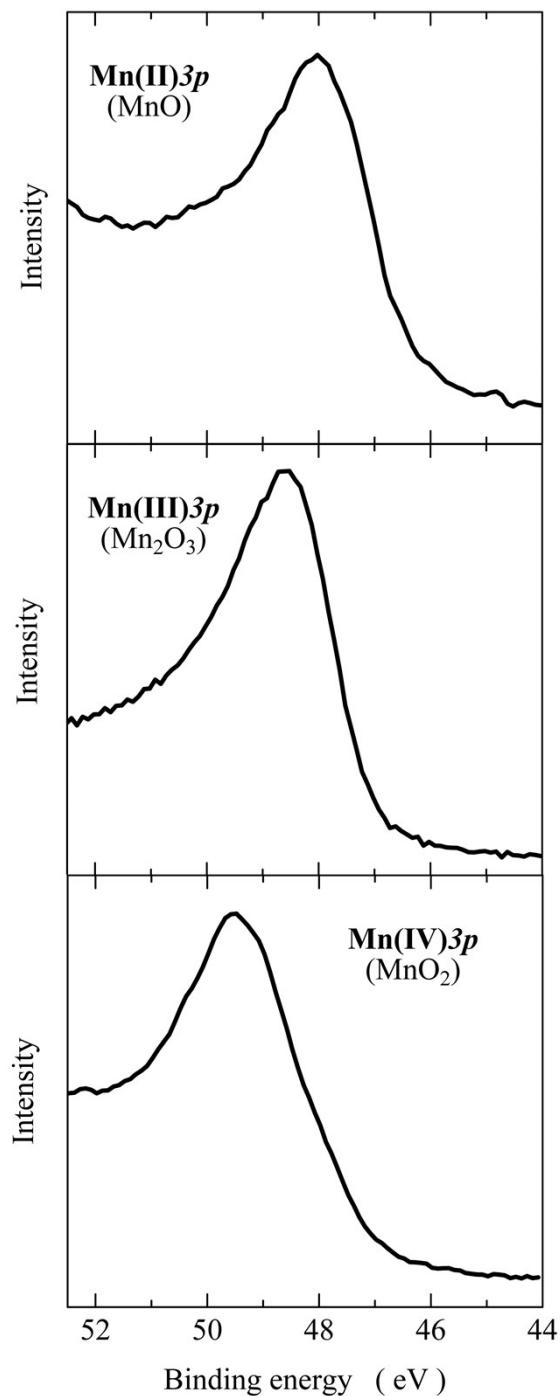


Figure S2 XPS peaks of Mn $3p$ for manganese oxides with different Mn oxidation states

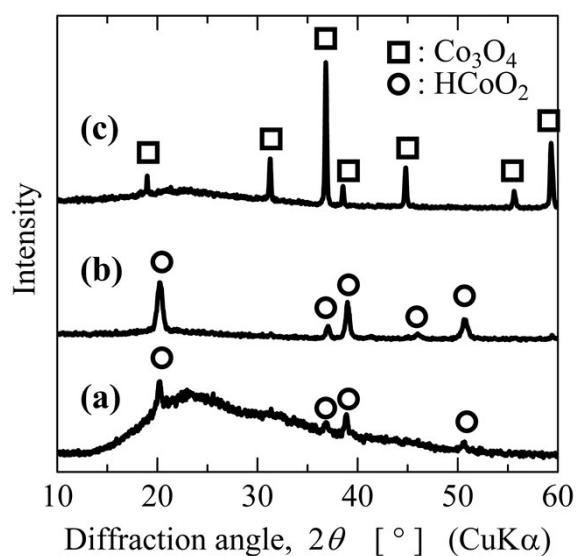


Figure S3 XRD patterns of the samples prepared by heating mixtures of TMAOH 5H₂O and HCoO₂ at (a) 80, (b) 110, and (c) 140 °C.

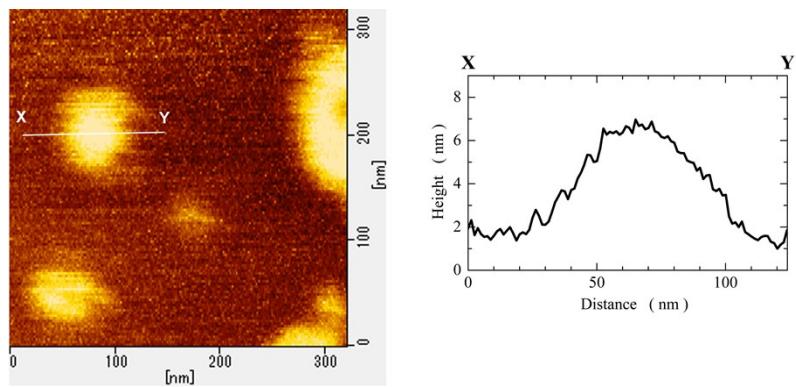


Figure S4 AFM image of the colloidal particles prepared by mixing $(\text{Li},\text{H})_x\text{CoO}_2$ and TMAOH in water at TMAOH/Co = 1.