

Influences of Ni Content on the Microstructural and Catalytic Properties of Perovskite $\text{LaNi}_x\text{Cr}_{1-x}\text{O}_3$

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Table S1. Area ratio of O_{ads}/O_{lat} for fresh and used $LaNi_xCr_{1-x}O_3$ samples in O 1s spectra.

x in $LaNi_xCr_{1-x}O_3$	Area ratio of O_{ads}/O_{lat} for fresh samples	Area ratio O_{ads}/O_{lat} for used samples
0.1	1.27	0.79
0.3	1.79	1.28
0.5	2.04	1.69

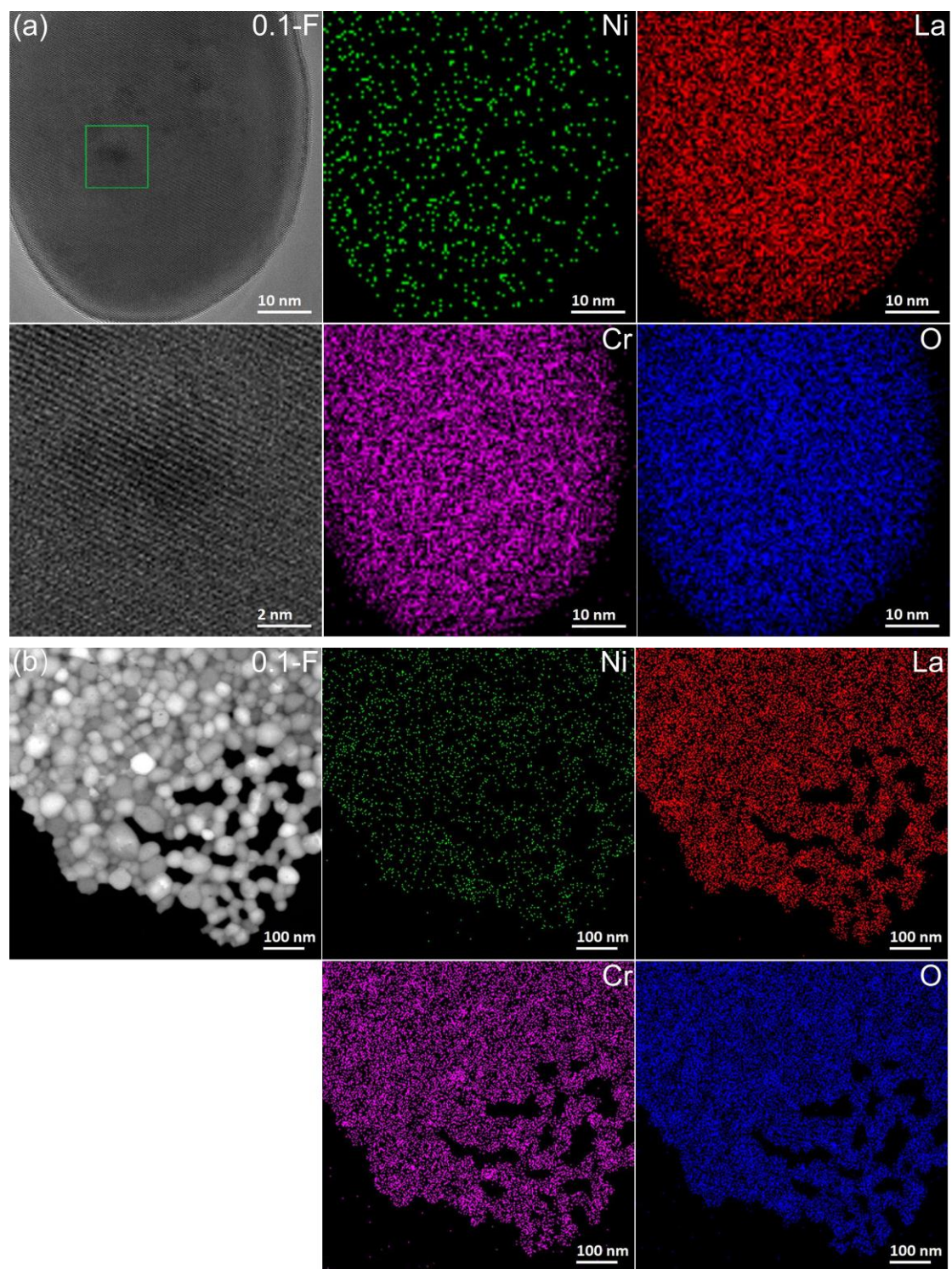


Figure S1. TEM images and EDS-Mapping of fresh $\text{LaNi}_{0.1}\text{Cr}_{0.9}\text{O}_3$ sample. (a) high magnification images to show the lattice structure and element distribution. The selected area (marked by a green square) is also magnified to reveal details of the lattice. (b) low magnification images to show the element distribution in a larger area.

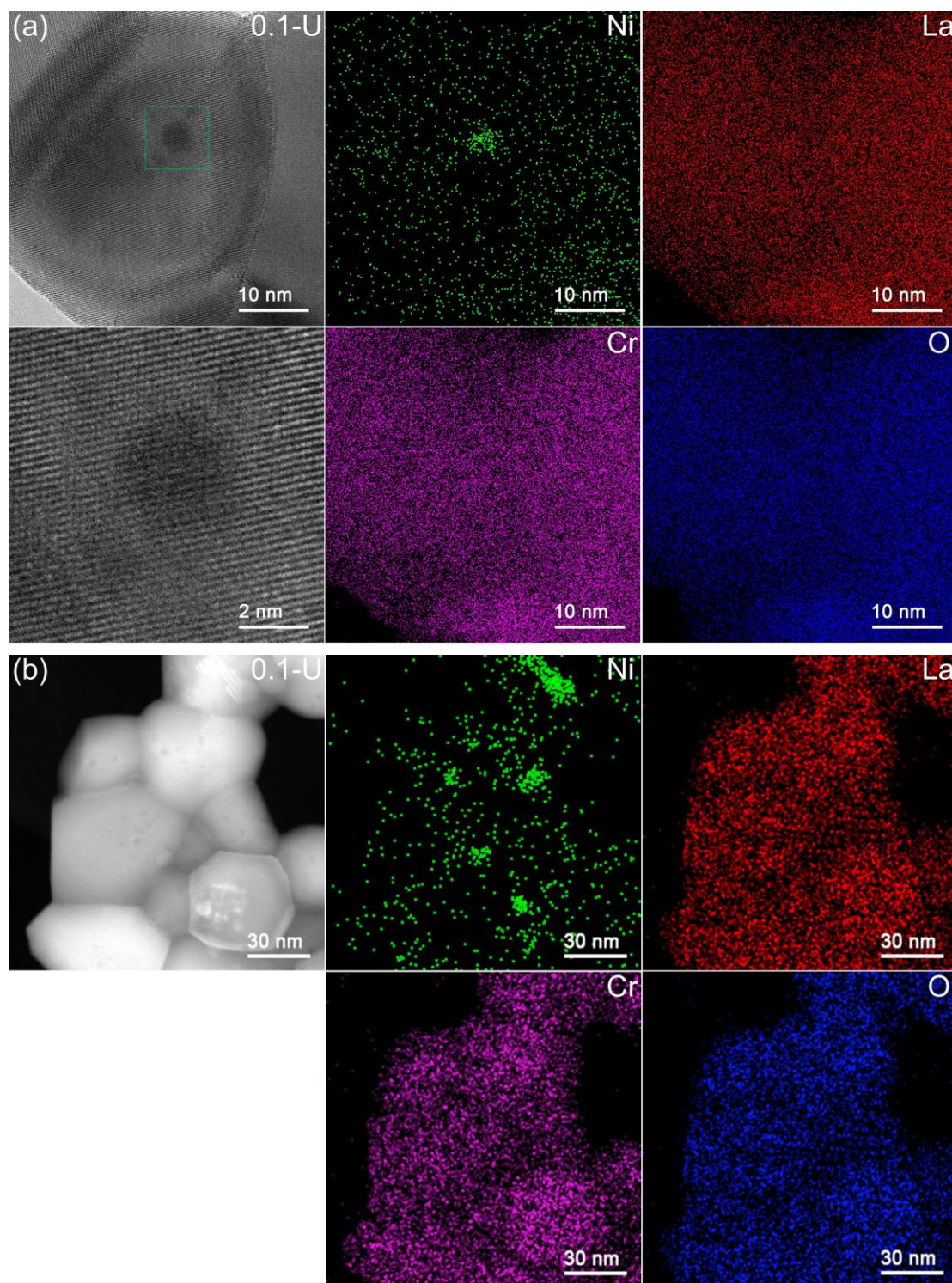


Figure S2. TEM images and EDS-Mapping of used $\text{LaNi}_{0.1}\text{Cr}_{0.9}\text{O}_3$ sample. (a) high magnification images to show the lattice structure and element distribution. The selected area (marked by a green square) is also magnified to reveal details of the lattice. (b) low magnification images to show the element distribution in a larger area.

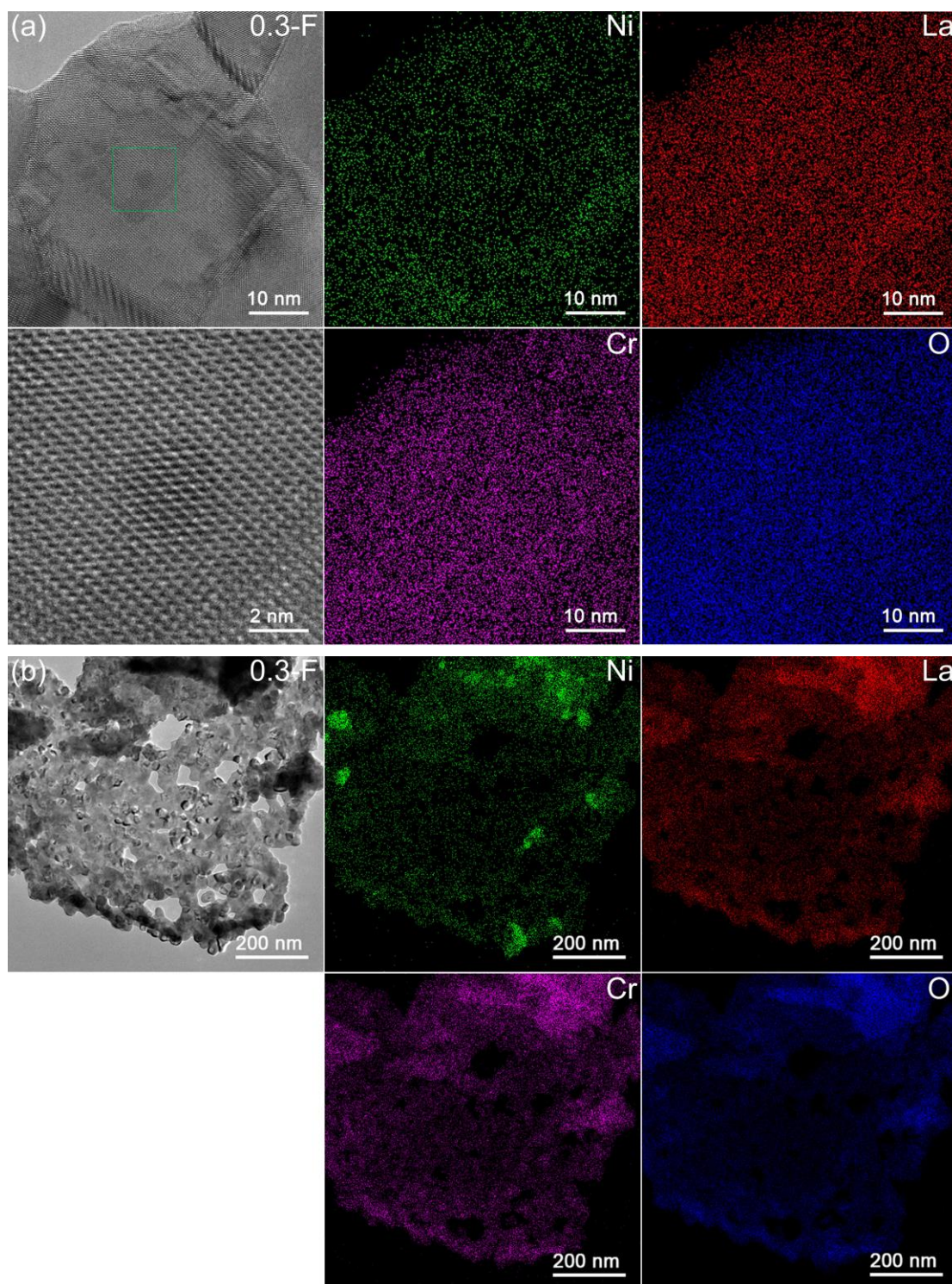


Figure S3. TEM images and EDS-Mapping of fresh $\text{LaNi}_{0.3}\text{Cr}_{0.7}\text{O}_3$ sample. (a) high magnification images to show the lattice structure and element distribution. The selected area (marked by a green square) is also magnified to reveal details of the lattice. (b) low magnification images to show the element distribution in a larger area.

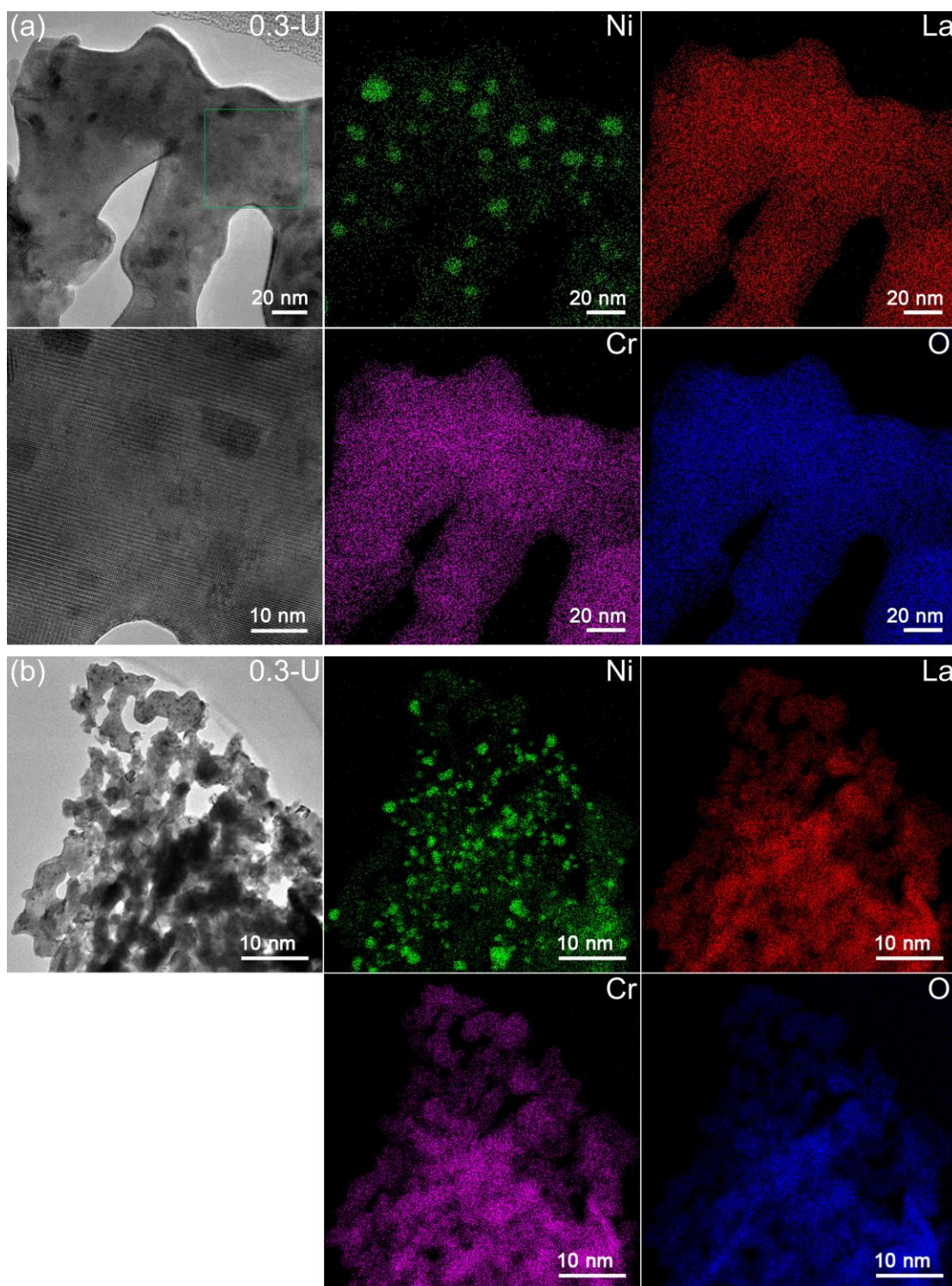


Figure S4. TEM images and EDS-Mapping of used $\text{LaNi}_{0.3}\text{Cr}_{0.7}\text{O}_3$ sample. (a) high magnification images to show the lattice structure and element distribution. The selected area (marked by a green square) is also magnified to reveal details of the lattice. (b) low magnification images to show the element distribution in a larger area.

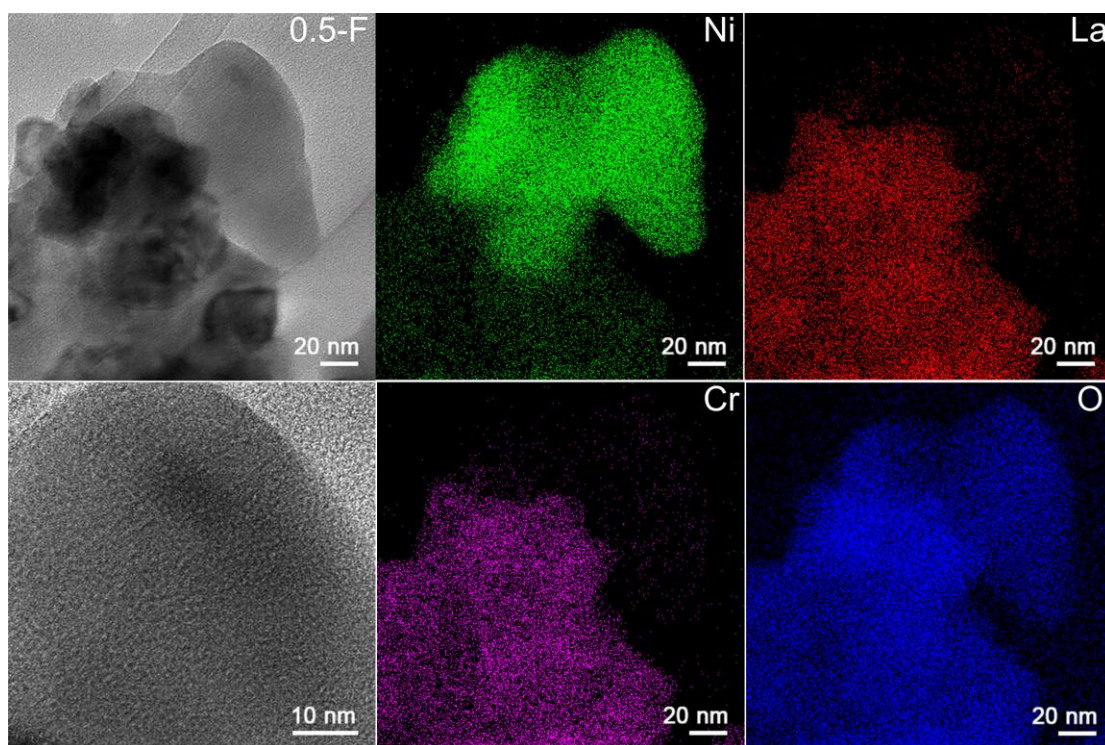


Figure S5. TEM images and EDS-Mapping of fresh $\text{LaNi}_{0.5}\text{Cr}_{0.5}\text{O}_3$ sample.

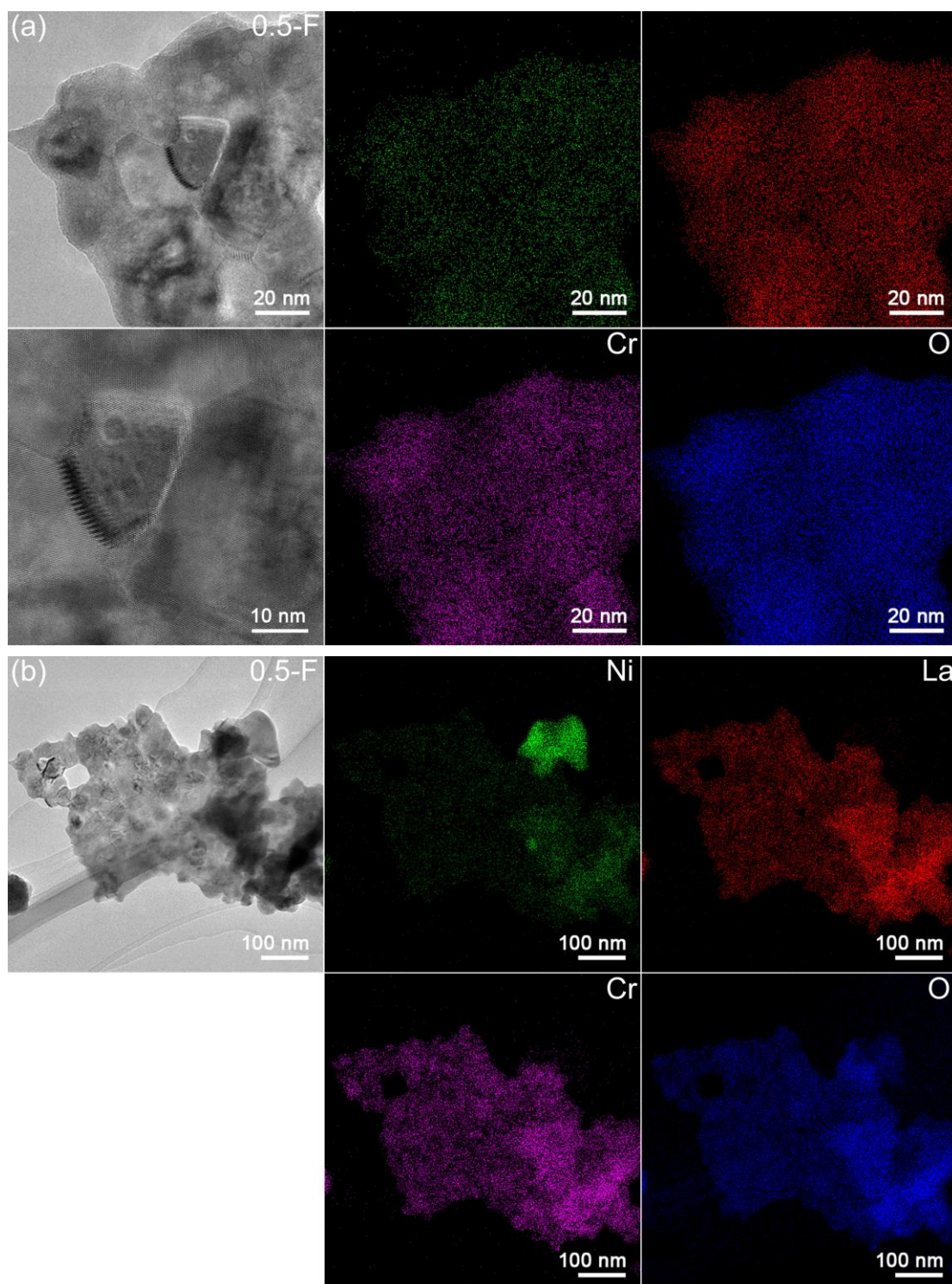


Figure S6. TEM images and EDS-Mapping of fresh $\text{LaNi}_{0.5}\text{Cr}_{0.5}\text{O}_3$ sample. (a) high magnification images to show the lattice structure and element distribution. The selected area (marked by a green square) is also magnified to reveal details of the lattice. (b) low magnification images to show the element distribution in a larger area.

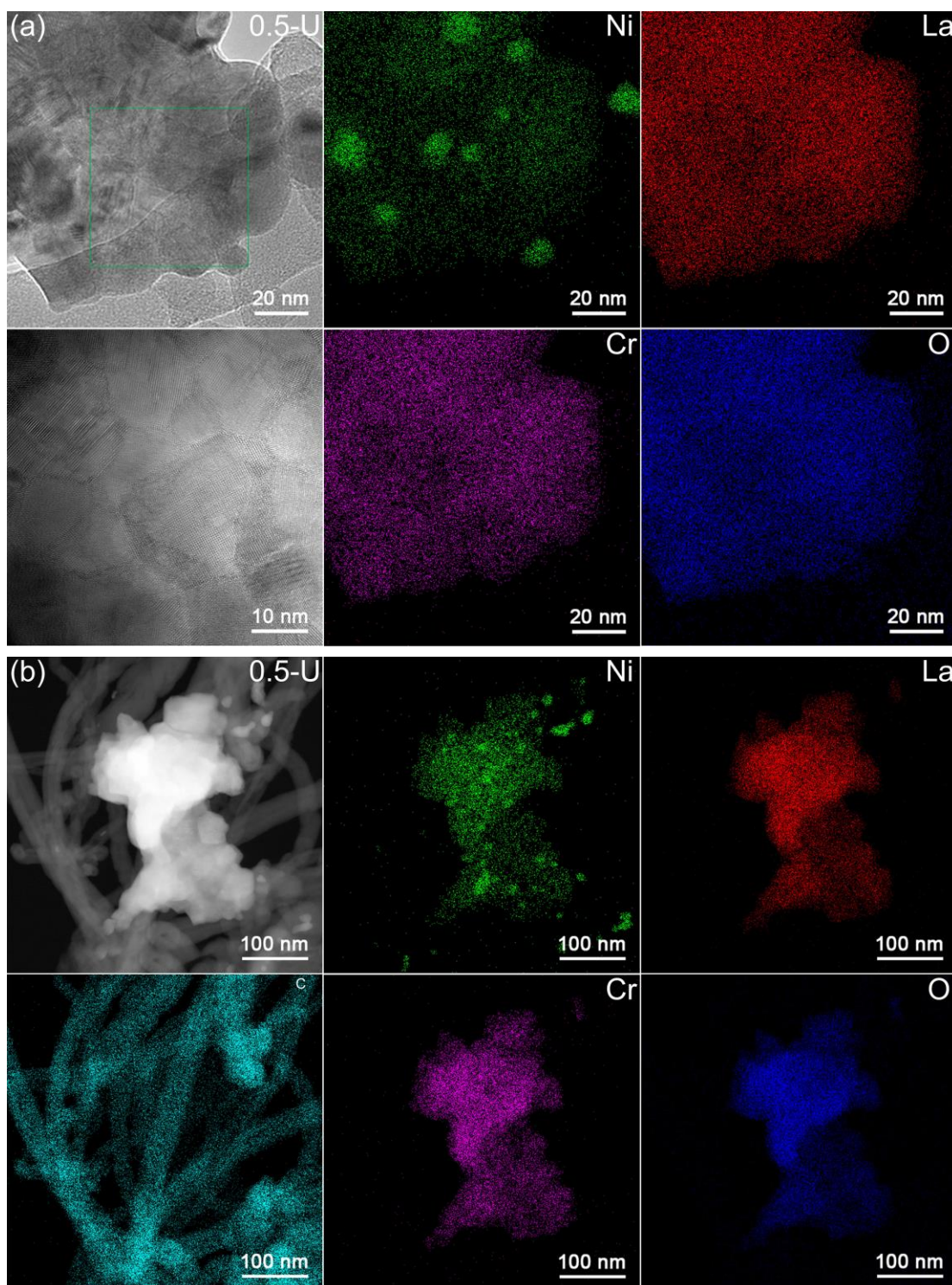


Figure S7. TEM images and EDS-Mapping of used $\text{LaNi}_{0.5}\text{Cr}_{0.5}\text{O}_3$ sample. (a) high magnification images to show the lattice structure and element distribution. The selected area (marked by a green square) is also magnified to reveal details of the lattice. (b) low magnification images to show the element distribution in a larger area.

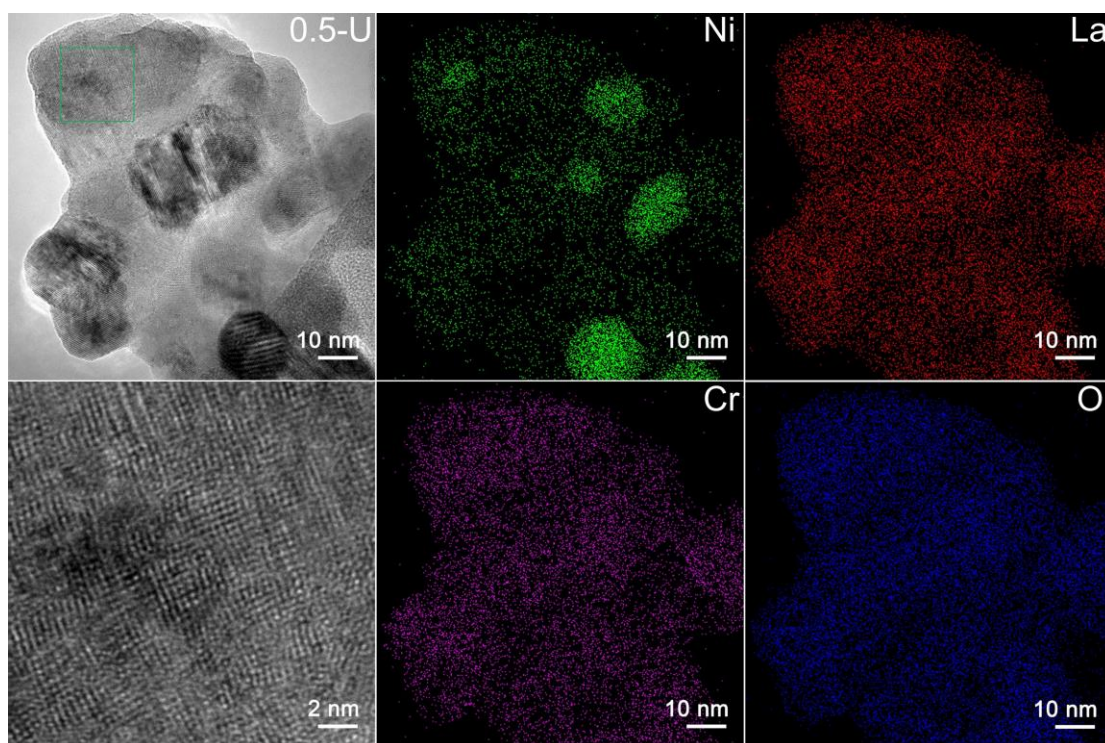


Figure S8. TEM images and EDS-Mapping of used $\text{LaNi}_{0.5}\text{Cr}_{0.5}\text{O}_3$ sample. The selected area (marked by green square) is also magnified to reveal details of the lattice.