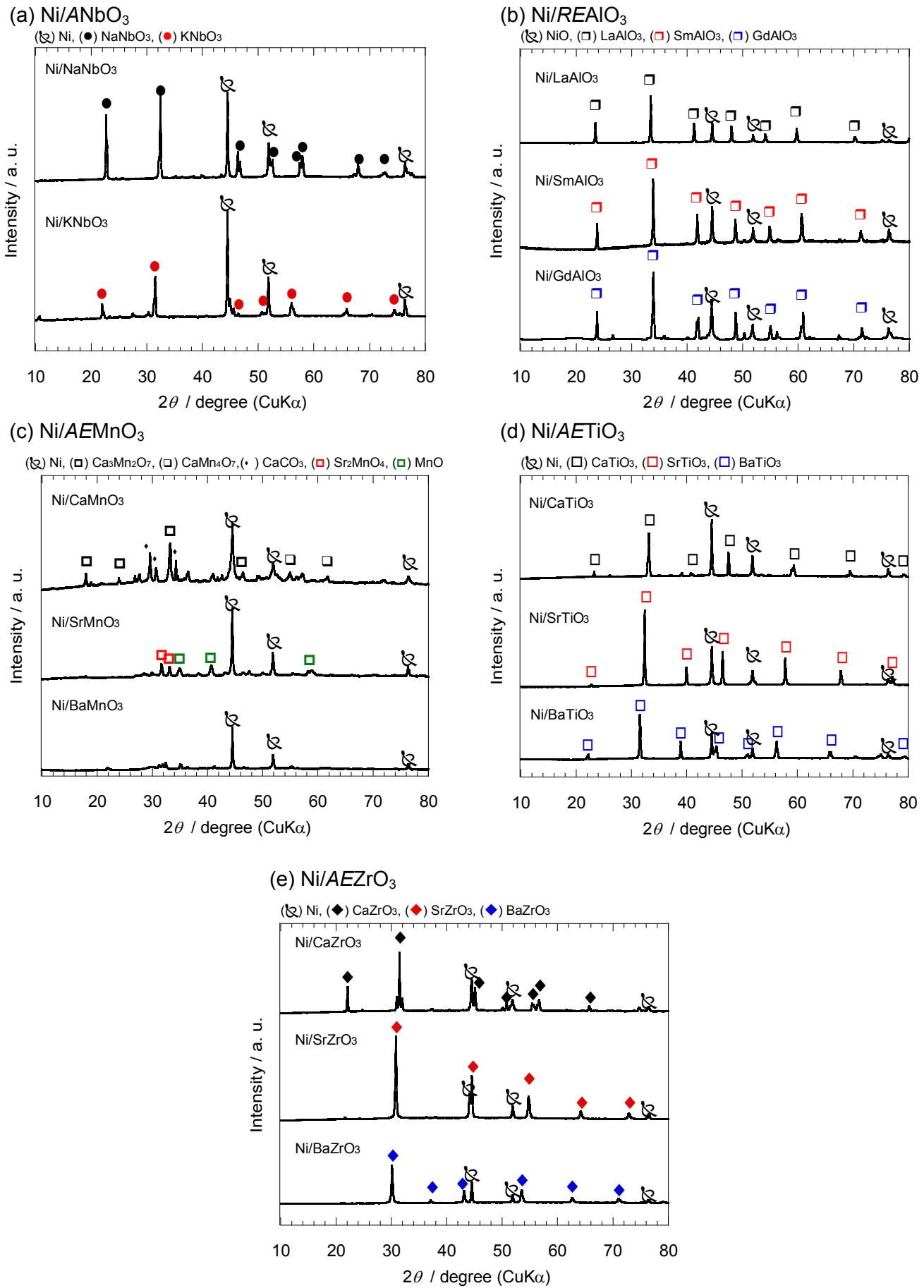


**Fig. S1** XRD patterns of 40 wt.% (a) NiO/ANbO<sub>3</sub>, (b) NiO/REAlO<sub>3</sub>, (c) NiO/AEMnO<sub>3</sub>, (d) NiO/AETiO<sub>3</sub>, and (e) NiO/AEZrO<sub>3</sub> after calcination at 600 °C.



**Fig. S2** XRD patterns of 40 wt.% Ni/ANbO<sub>3</sub>, Ni/REAIO<sub>3</sub>, Ni/AEMnO<sub>3</sub>, Ni/AETiO<sub>3</sub>, and Ni/AEZrO<sub>3</sub> after reduction at 600 °C.