Electronic Supplementary Information for Catalysis Science & Technology

Self-regeneration of three-way catalyst rhodium supported on La-containing ZrO_2 in an oxidative atmosphere

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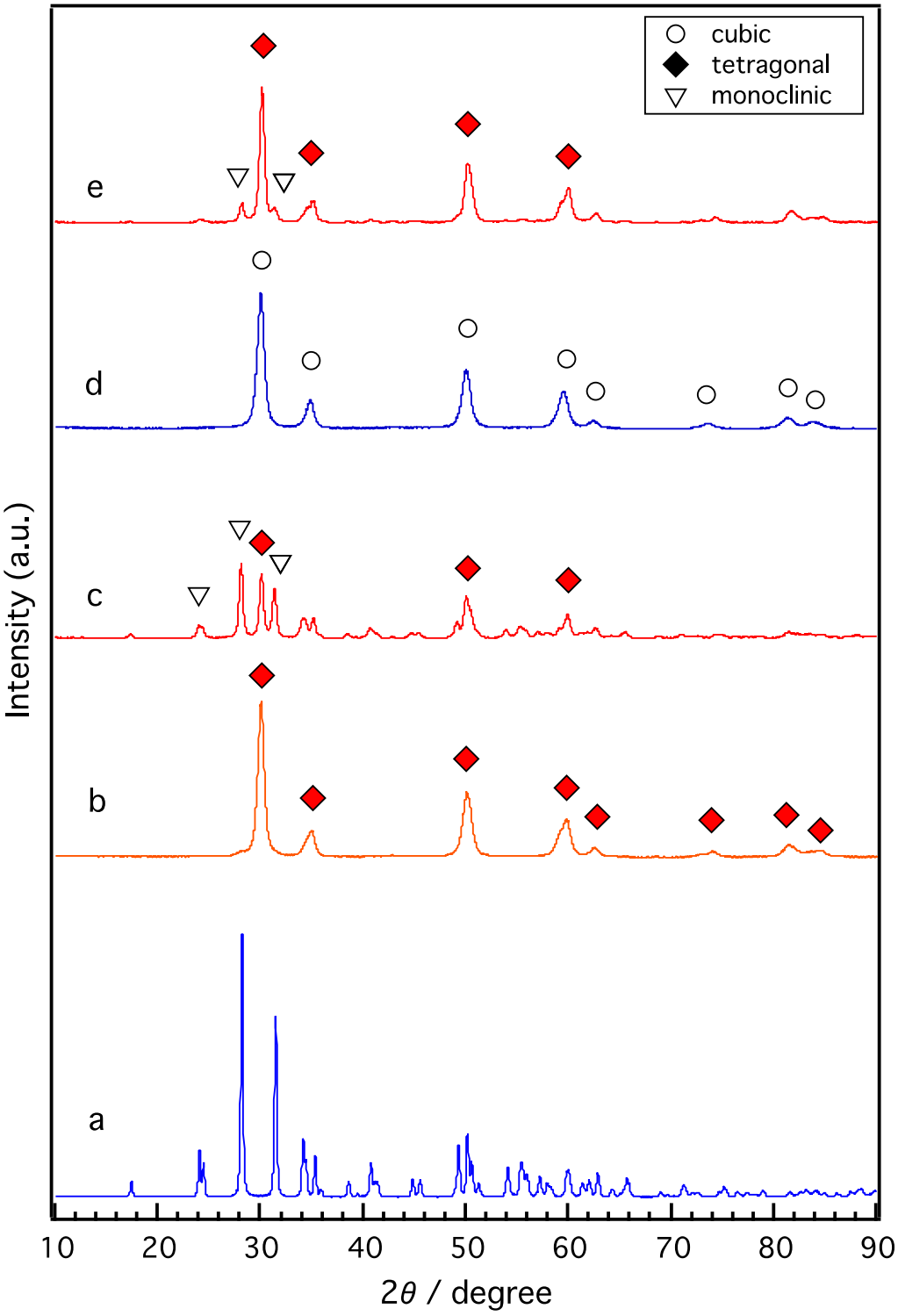

Fig. S1 XRD patterns of the fresh catalysts: (a) Rh/ZrO_2 , (b) Rh/Zr-La-O , (c) Rh/Zr-Ce-O, (d) Rh/Zr-Ce-O and (e) Rh/Zr-Nd-O.

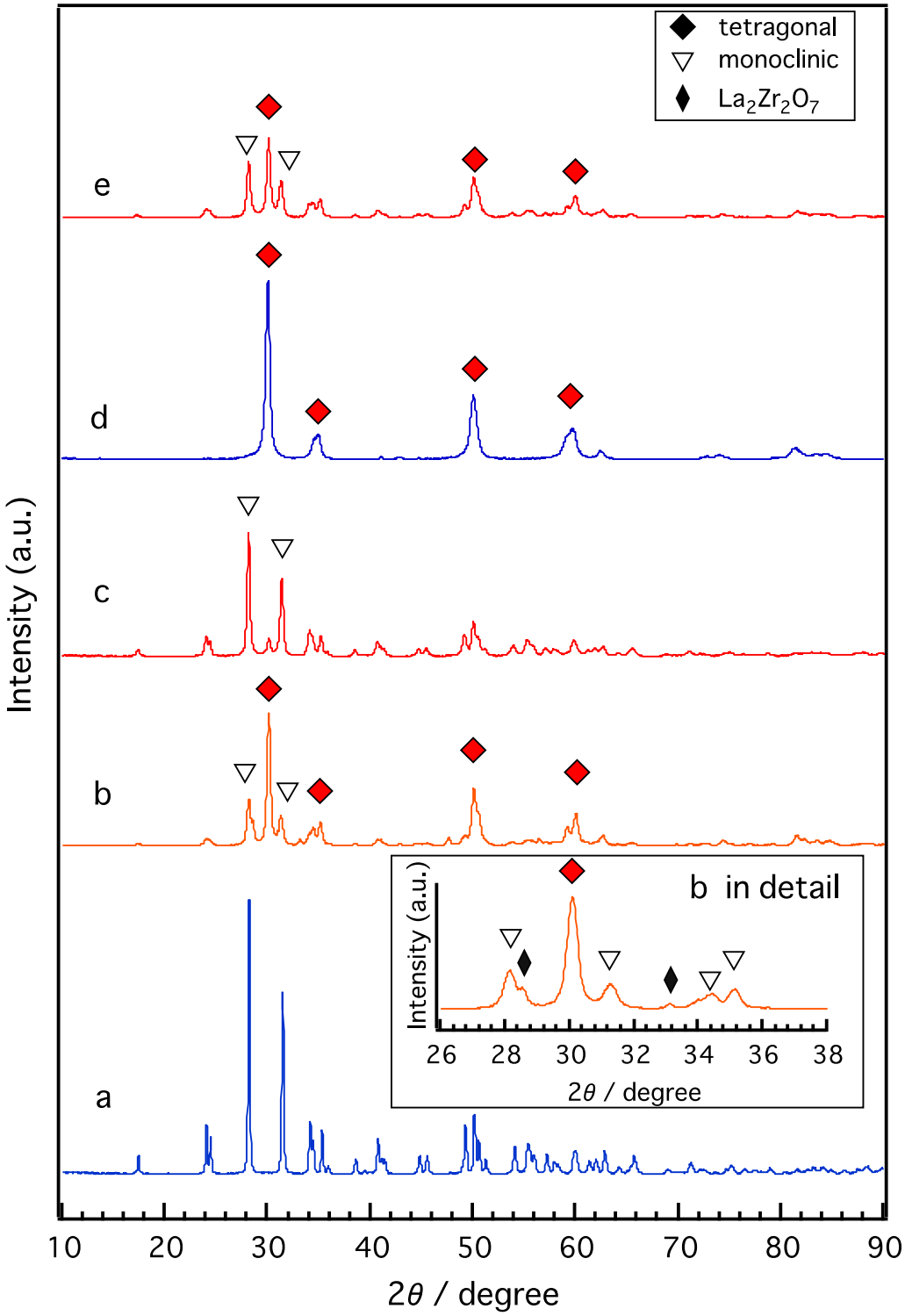

Fig. S2 XRD patterns of the aged catalysts: (a) Rh/ZrO_2 , (b) Rh/Zr-La-O , (c) Rh/Zr-Ce-O, (d) Rh/Zr-Ce-O and (e) Rh/Zr-Nd-O. Aging was conducted at 1273 K and in 2% O_2 and 10% H_2O/N_2 for 24h.

Table S1 ZrO_2 and other phases detected by XRD.

	Fresh	Aged[a]
Rh/ZrO_2	Monoclinic	Monoclinic
Rh/Zr–La–O	Tetragonal	Monoclinic, Tetragonal and $La_2Zr_2O_7$
Rh/Zr–Ce–O	Monoclinic and Tetragonal	Monoclinic and Tetragonal
Rh/Zr–Pr–O	Cubic	Tetragonal
Rh/Zr–Nd–O	Monoclinic and Tetragonal	Monoclinic and Tetragonal

[a] Aged at 1273 K for 24 h in 2% of O_2 and 10% of H_2O/N_2 atmosphere.