Supporting Information

Superior Low Temperature Activity over α-MnO_2/β-MnOOH Catalyst for Selective Catalytic Reduction of NOx with Ammonia.

Masanori Takemoto, Haruko Fujinuma, Yoshihiro Sugawara, Yukichi Sasaki, Kenta Iyoki, Tatsuya Okubo, Kazuya Yamaguchi, Toru Wakihara

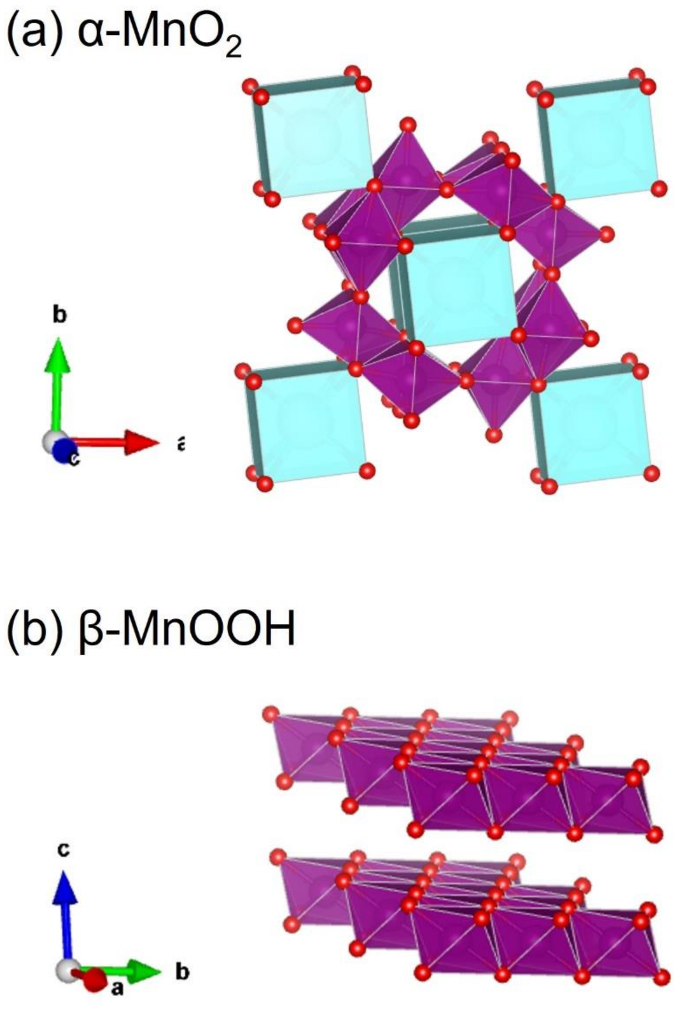

Figure S1. Crystal structures of (a) α-MnO_2 and (b) β-MnOOH. Crystal structure of feitknechtite belongs to the space group of $P\overline{3}m1$ with unit cell dimensions a = 3.32 Å, and c = 4.71 Å.

Table S1. Comparison of NO conversion at near 120 °C over OMS-2 related catalysts.

Sample	Dopant	NO conversion / %	GHSV / h^{-1}	Temperature / °C	Ref.
OMS-2	-	77	40000	120	This work
Milled for 15 min	-	60	100000	120	This work
Milled for 55 min	-	100	70000	120	This work
Milled for 95 min	-	82	70000	120	This work
MnCe(n)Ox (n = 0)	-	94	18000	110	1
MnCe(n)Ox (n = 0.3)	Ce	< 95	18000	110	1
MnCe(n)Ox (n = 0.5)	Ce	< 95	18000	110	1
MnO_2	-	83	15000	125	2
$Fe_{0.2\%}MnO_2$	Fe	91	15000	125	2
$Fe_{0.5\%}MnO_2$	Fe	96	15000	125	2
$Fe_{1\%}MnO_2$	Fe	92	15000	125	2
$Fe_{5\%}MnO_2$	Fe	91	15000	125	2
K-OMS-2	-	77	64000	120	3
Zn-OMS-2	Zn	89	64000	120	3
Fe-K-OMS-2	Fe	88	64000	120	3
Zr-K-OMS-2	Zr	99	64000	120	3
V-K-OMS-2	V	56	64000	120	3
W-K-OMS-2	W	16	64000	120	3
Mo-K-OMS-2	Mo	28	64000	120	3
K-OMS-2	-	55	64000	120	4
Ce(0.06)-K-OMS-2	Ce	55	64000	120	4
Ce(0.12)-K-OMS-2	Ce	93	64000	120	4
Ce(0.24)-K-OMS-2	Ce	95	64000	120	4
Ce(0.48)-K-OMS-2	Ce	93	64000	120	4
OMS-2	-	80	30000	120	4
Ti-OMS-2	Ti	82	30000	120	4

Reference

1. Y. Wei *et al.*, *Catal. Sci. Technol.*, **2017**, 7, 1565-1572.

2. H. Fan *et al*., *Catal. Sci. Technol.*, **2021**, 11, 6553-6563.

3. X. Wu *et al.*, *Catal. Sci. Technol.*, **2019**, 9, 4108-4117.

4. X. Wu *et al.*, *J. Phys. Chem. C*, **2019**, 123, 10981-10990.