Electronic Supplementary Information for

Mesoporous Rh nanotubes for efficient electro-oxidation of methanol

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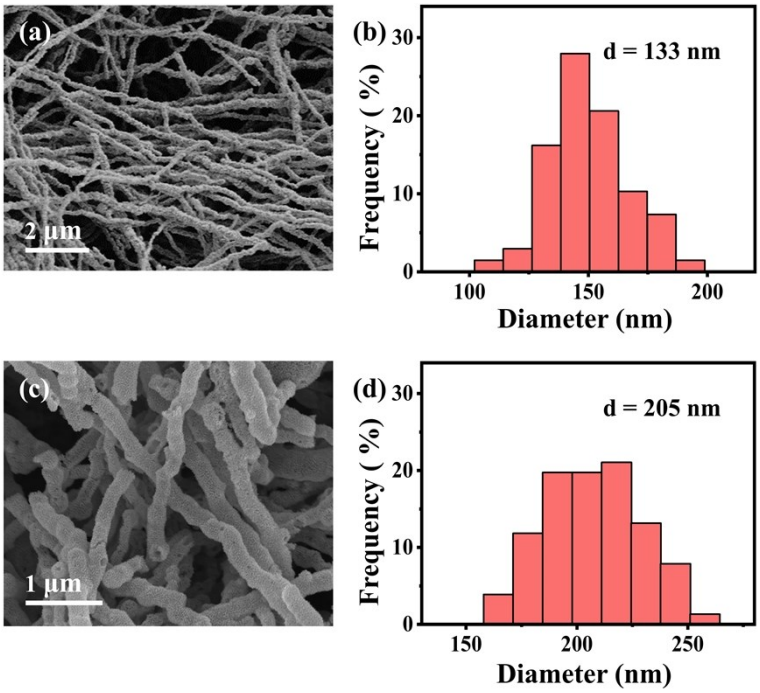

Fig. S1 (a, c) SEM images and (b, d) Histogram of the size distribution of Ni NWs and Rh MNTs, respectively.

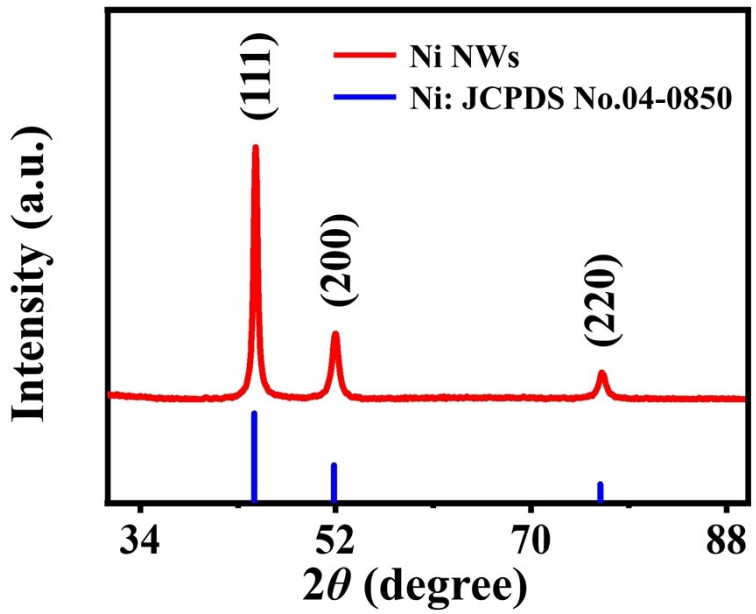

Fig. S2 XRD pattern of Ni NWs.

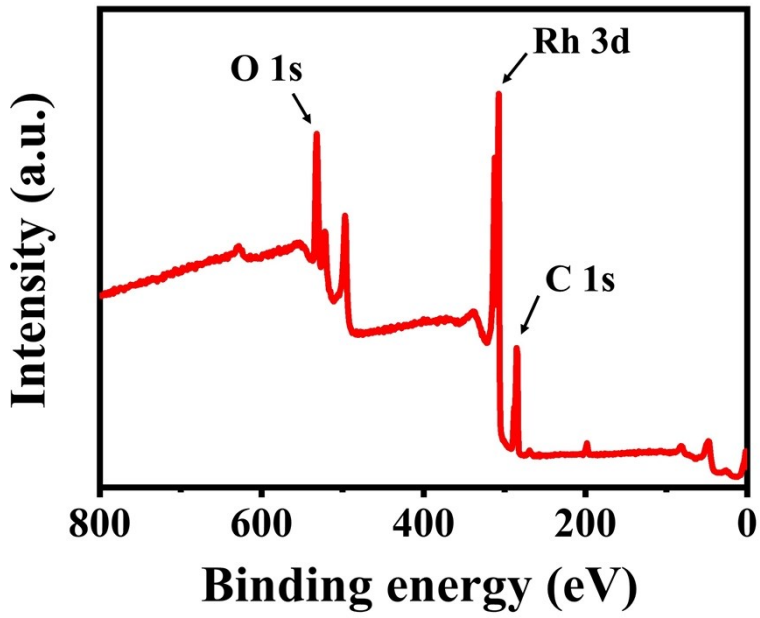

Fig. S3 XPS survey spectrum of Rh MNTs.

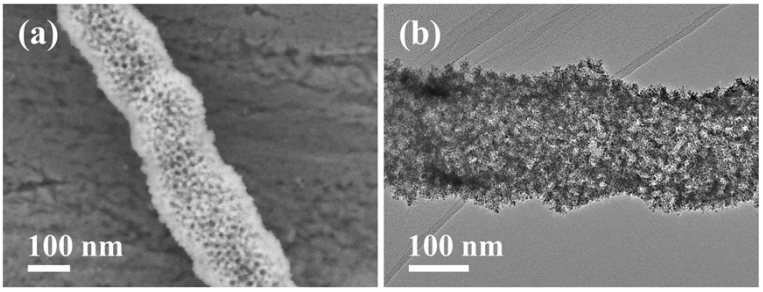

Fig. S4 (a) SEM and (b) TEM images of Rh MNTs obtained from 2 h.

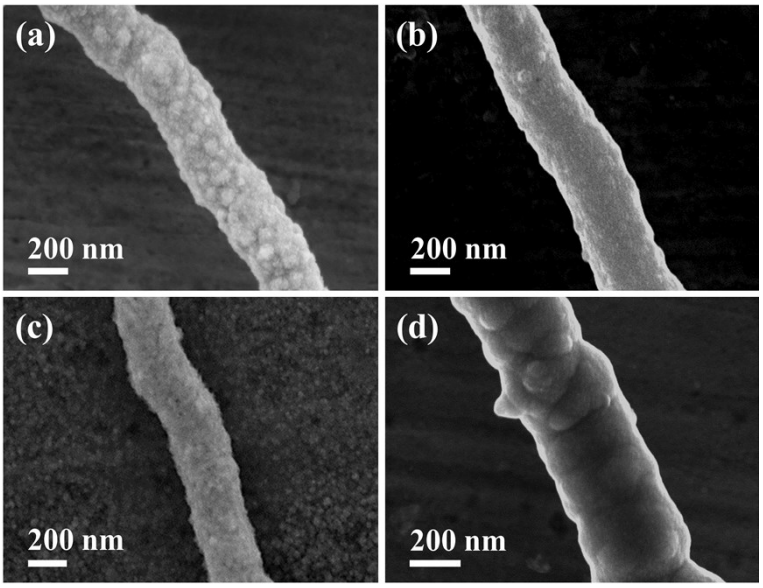

Fig. S5 (a) SEM image of the Rh NWs prepared without surfactants, and SEM images of Rh NWs prepared with (b) F127, (c) DM970 and (d) PVP under typical condition.

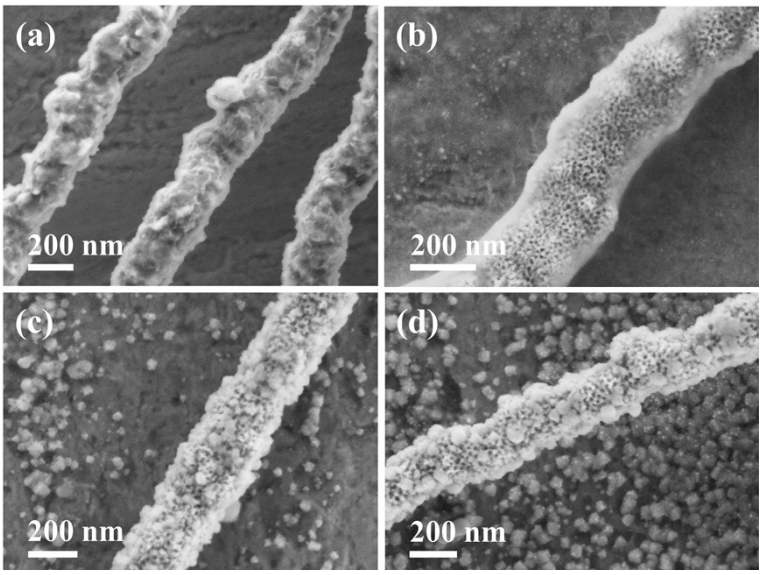

Fig. S6 SEM images of the samples prepared under the typical conditions with 1 mL (a) water, (b) 0.5 M, (c) 2.0 M, and (d) 4.0 M HCl.

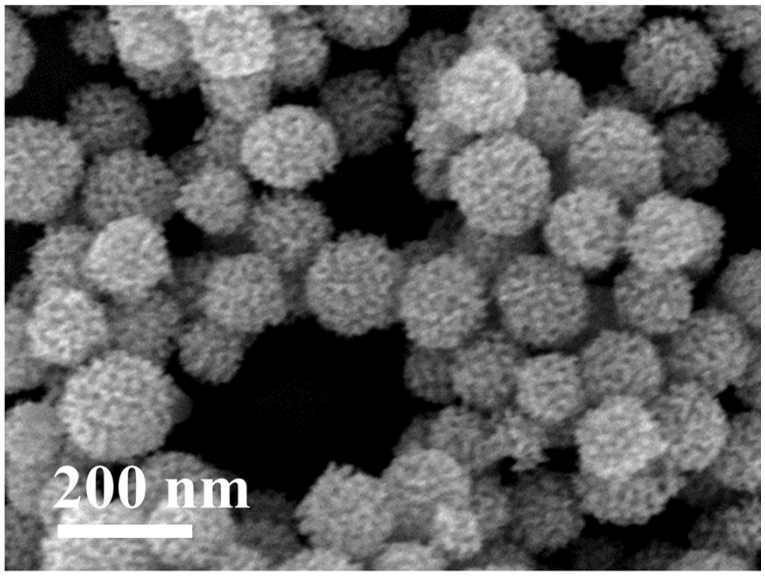

Fig. S7 SEM image of Rh NPs.

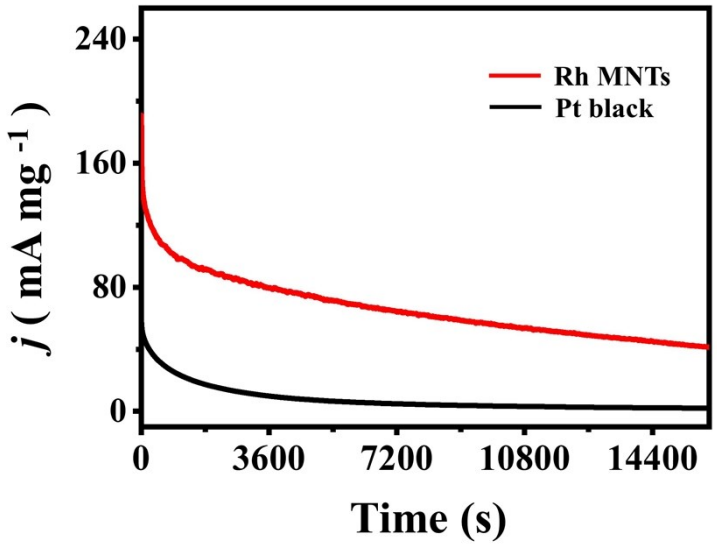

Fig. S8 Chronoamperometric curves of the Rh MNTs and Pt black in N_2-saturated 1 M KOH + 1 M CH_3OH solution at 0.6 V potential.

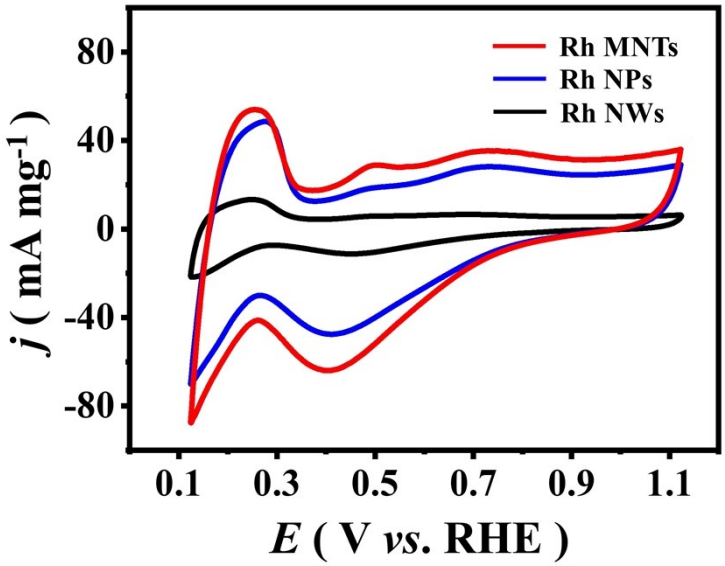

Fig. S9 CV curves of the Rh MNTs, Rh NPs and Rh NWs in N_2-saturated 1 M KOH solution.

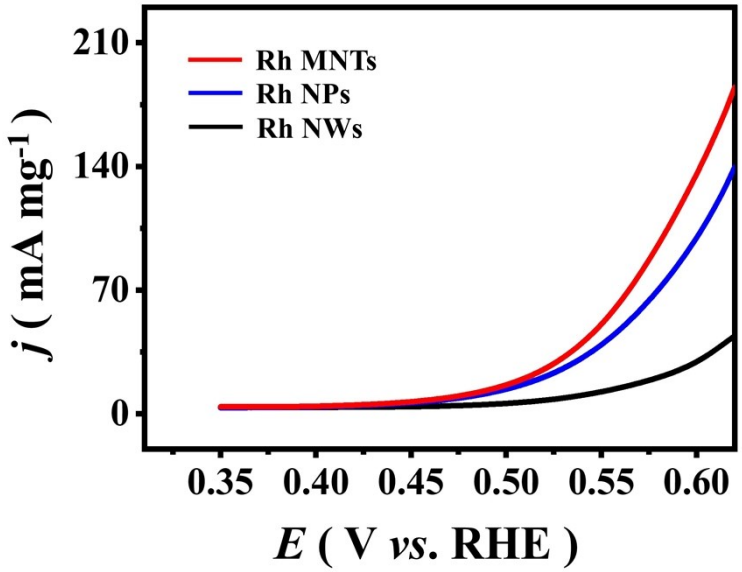

Fig. S10 Linear-sweep voltammogram curves of the MOR catalyzed by various catalysts.

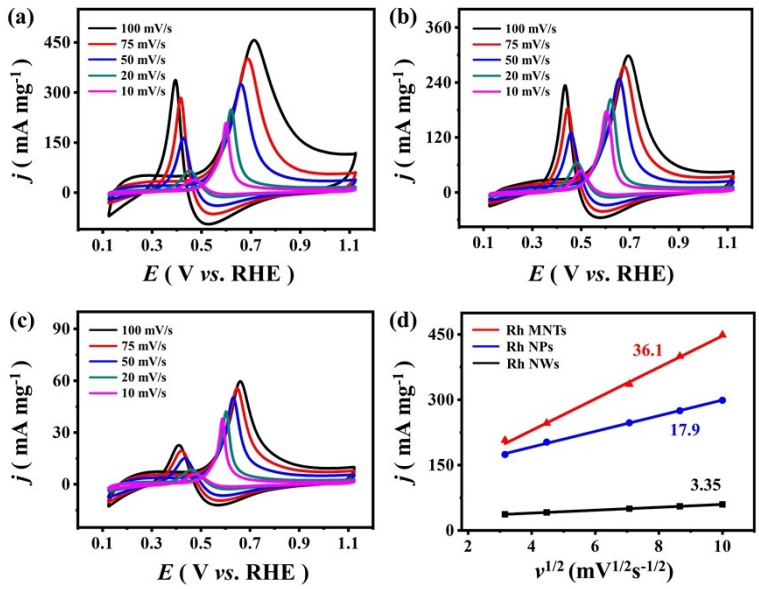

Fig. S11 CV curves at different scan rates of the (a) Rh MNTs, (b) Rh NPs, and (c) Rh NWs, respectively. (d) The plots of current density at the forward oxidation peak potential vs. the square root of the scan rate of the Rh MNTs, Rh NPs and Rh NWs.

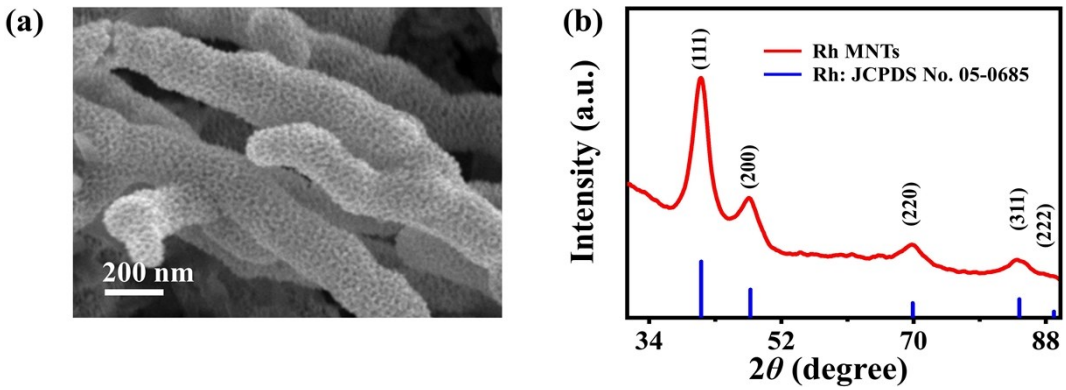

Fig. S12 (a) SEM image and (b) XRD pattern of Rh MNTs after the durability test.

Table S1 Summary of the representative reports on electrocatalytic for the MOR in alkaline media.

Catalyst	Electrolyte	Scan rate mV s^{-1}	Mass activity mA mg^{-1}	Ref.
Rh MNTs	**1 M KOH containing 1.0 M CH_3OH**	**50**	**325**	**This work**
Rh NPS	1 M KOH containing 1.0 M CH_3OH	50	288	1
Hollow Rh nanospheres	1 M KOH containing 1.0 M CH_3OH	50	272	2
hierarchical porous Rh nanosheets	1 M KOH containing 0.5 M CH_3OH	50	333	3
RhCo alloy nanocrystals	1 M KOH containing 1.0 M CH_3OH	50	306	4
Rh nanosheets	1 M KOH containing 1.0 M CH_3OH	50	264	5
FeRh thin films	1 M NaOH containing 1.0 M CH_3OH	50	226	6
PdRh nanoparticles	1 M NaOH containing 1.0 M CH_3OH	50	99.3	7
Rh nanodendrites	1 M KOH containing 1.0 M CH_3OH	50	255	8
mesoporous Rh films	1 M KOH containing 1.0 M CH_3OH	50	277	9
RhTe nanowires	1 M KOH containing 1.0 M CH_3OH	50	317	10

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