Electronic Supplementary Material (ESI) for New Journal of Chemistry.

Precisely controlled synthesis of Co/N species contained porous carbon for oxygen reduction reaction via anion-exchanging and CO_2 activation

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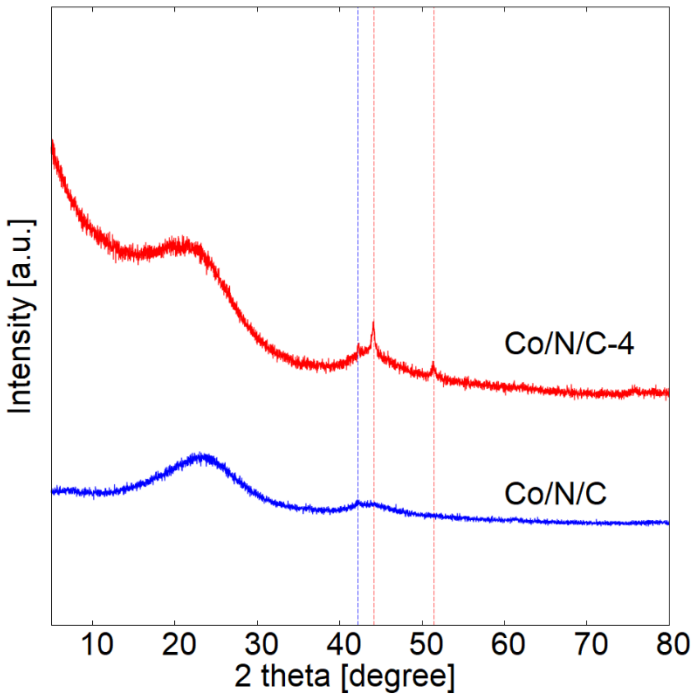

Fig. S1 XRD patterns of Co/N/C-4 and Co/N/C.

Table S1 BET surface areas of the prepared samples.

Catalysts	BET surface area [m^2 g^{-1}]
Co/N/C-act 1h	517
Co/N/C-act	710
Co/N/C-act 3h	837

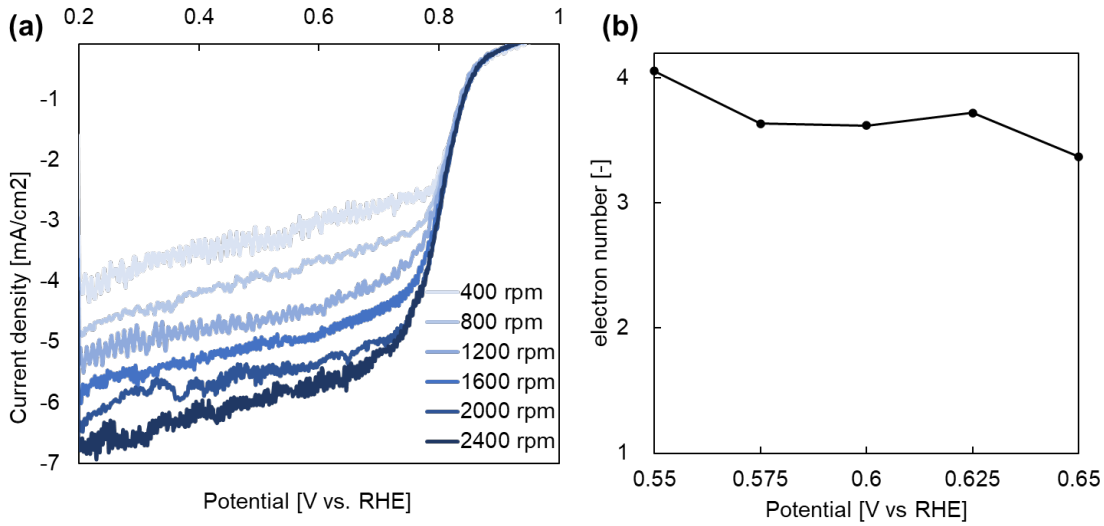

Fig. S2 (a) LSV curves of Co/N/C-act in O_2-saturated 0.1 M KOH solution at different rotating speeds. (b) The electron transfer number calculated from corresponding K–L plots at different potentials.

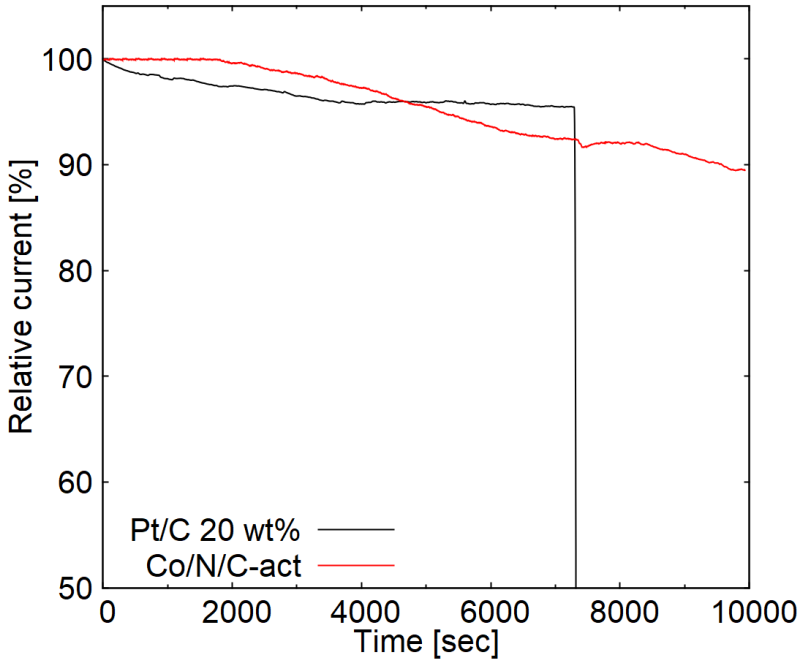

Fig. S3 Relative current density versus Time for Pt/C 20 wt% and Co/N/C-act at 0.65 V vs RHE in O_2-saturated 0.1 M KOH at a scan rate of 5 mV s^{-1} and 1600 rpm

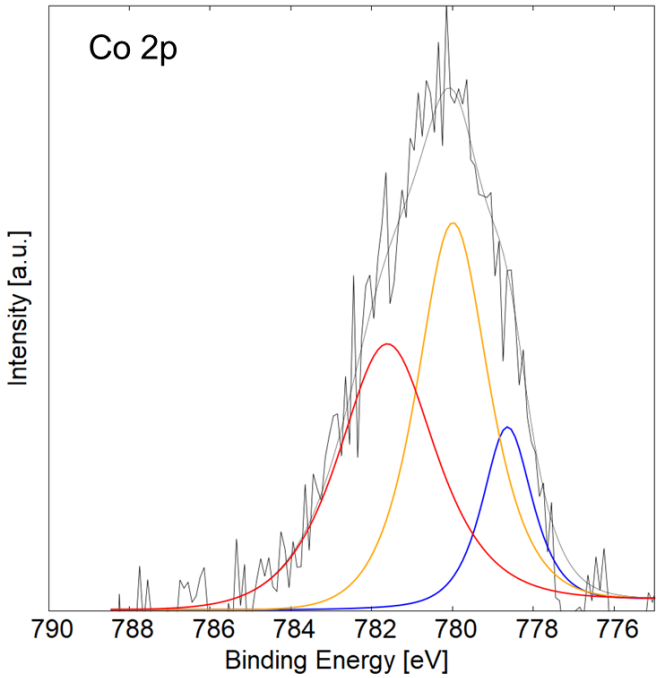

Fig. S4 Co 2p spectra of Co/N/C-act 3h.

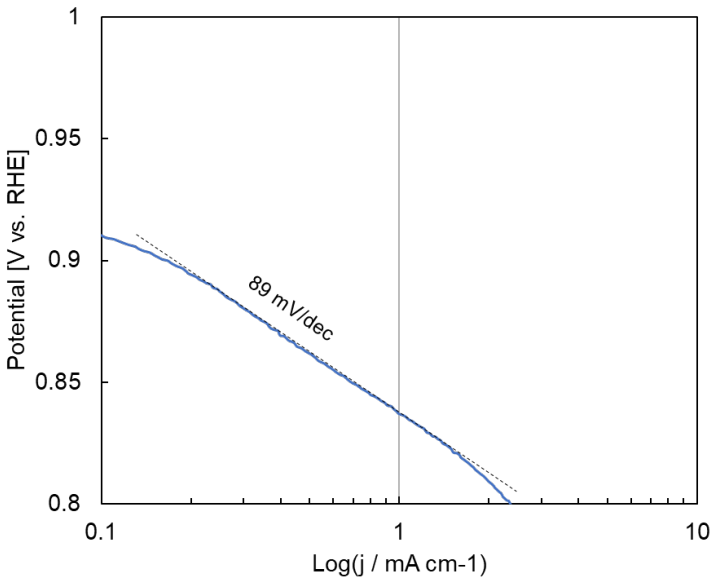

Fig. S5 Tafel plots of Co/N/C-act.

Table S2 Summary of ORR activities in 0.1 M KOH for catalysts in this work and representative Co/N co-doped catalysts in references.

Catalysts	Onset Potential [V vs. RHE]	Half-wave Potential [V vs. RHE]	Limiting Current Density [mA cm^2]	Reference
Co/N/C-act	0.92	0.80	-5.3	This work
Co-N-rGO	0.88	0.81	-4.2	[1]
Co/NG	0.89	0.82	-1.3	[2]
Co-N-graphene	0.87	0.80	-	[3]
Co-NGA_{600}	0.86	-	-4.5	[4]

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