

## **Synthesis of Co/N doped microporous carbon using Co/2-methylimidazole anchored zeolite Y**

Osaka University

Yexin Zhu, Koji Miyake, Yasuhiro Shu, Yuichiro Hirota, Yoshiaki Uchida and Norikazu Nishiyama

Zeolite templated carbons (ZTCs) exhibit uniform micropore and large surface area, which are beneficial especially for the application as catalyst supports, providing good accessibility to the active centers. Herein, we synthesized Co/N doped ZTC using Co/2-methylimidazole anchored zeolite Y, and investigated its catalytic performance on oxygen reduction reaction (ORR). The Co/N doped ZTC had high surface area and single atomic CoN<sub>x</sub>. In addition, the Co/N doped ZTC exhibited excellent catalytic activity and durability on ORR. The high catalytic performance on ORR is mainly attributed to high porosity and single atomic CoN<sub>x</sub> of the Co/N doped ZTC. This synthesis method can be applied to other metal and hetero atoms ZTCs using other metal complexes. This work provides a new synthetic strategy for ZTCs, and expands the utilization of ZTCs.