

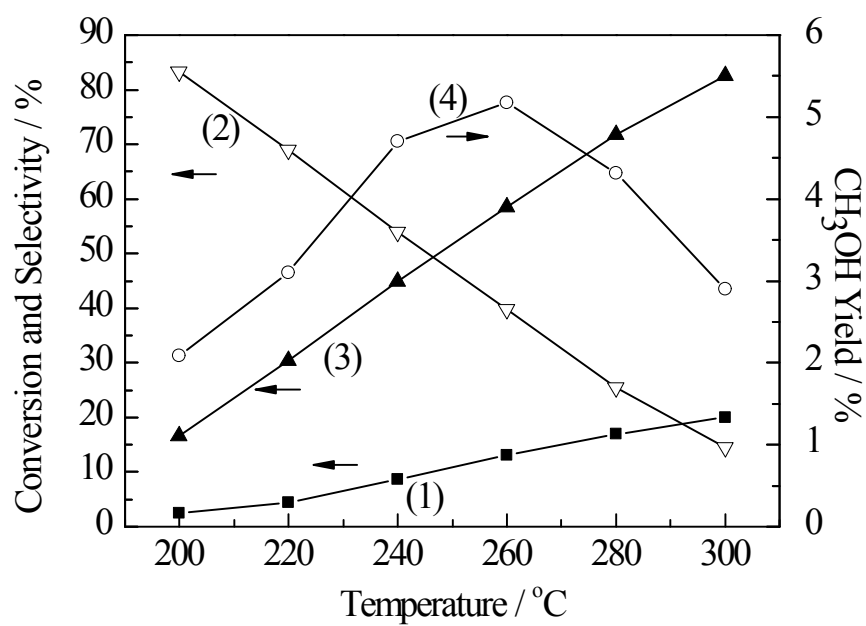
Supporting Information

Carbon Dioxide Hydrogenation to Methanol over Cu-ZrO₂/CNTs: Effect of Carbon Surface Chemistry

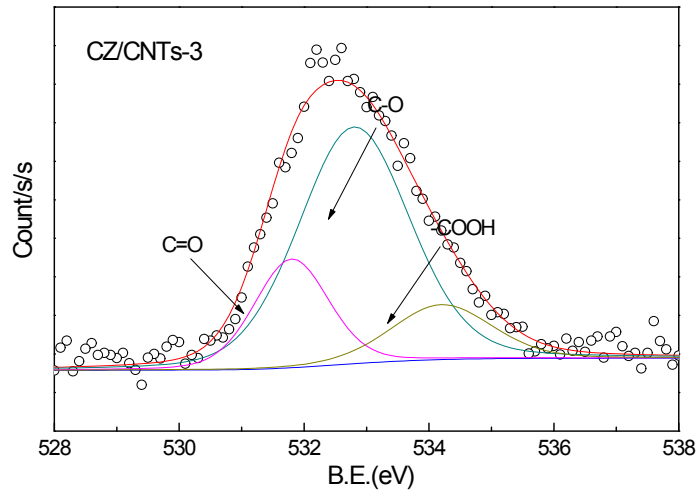
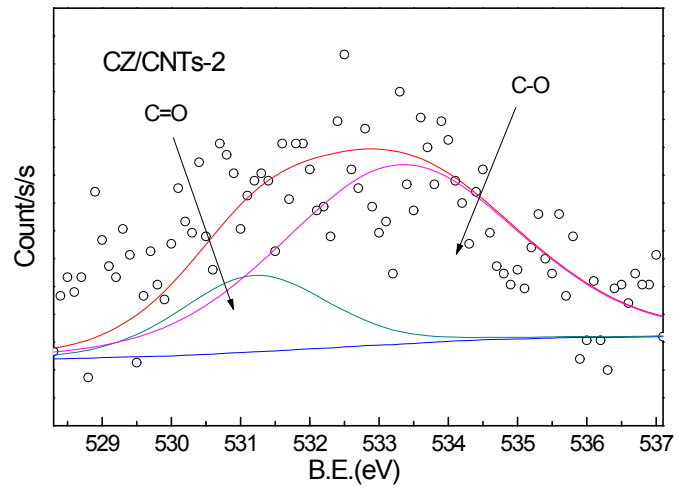
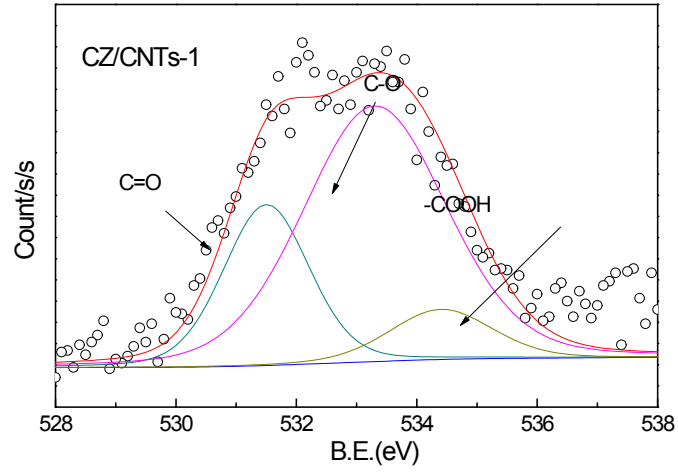
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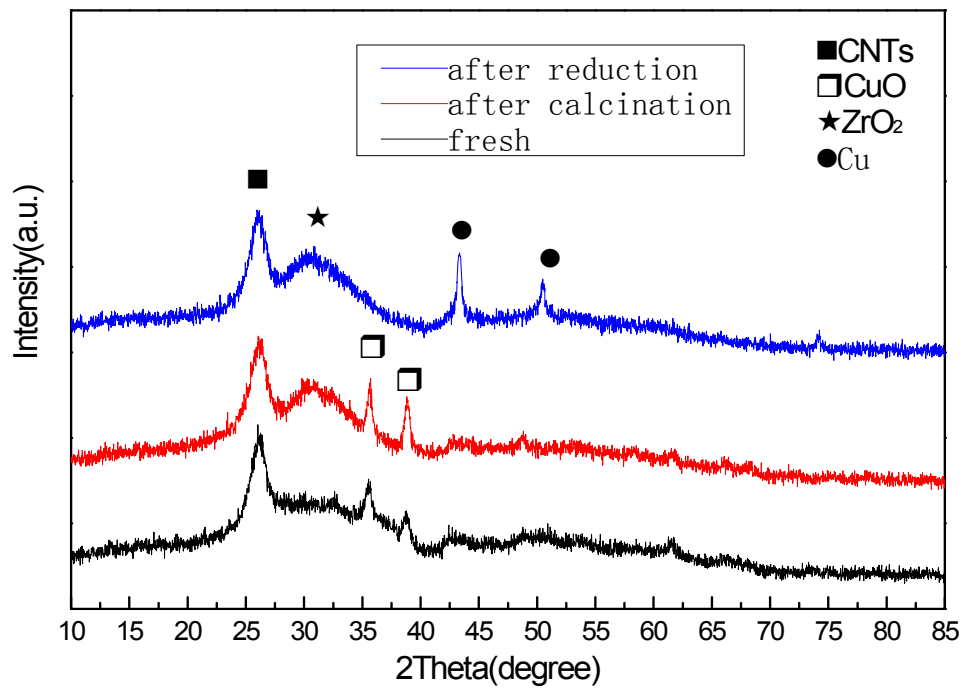
S-1 The catalytic performance of 10wt% Cu/ZrO₂ catalyst without CNTs. (1) CO₂ Conversion; (2) CH₃OH Selectivity; (3) CO Selectivity; (4) CH₃OH Yield. Reaction condition: V(H₂):V(CO₂):V(N₂) = 69:23:8, P = 3.0 MPa, GHSV = 3600 ml/(h·gcat)



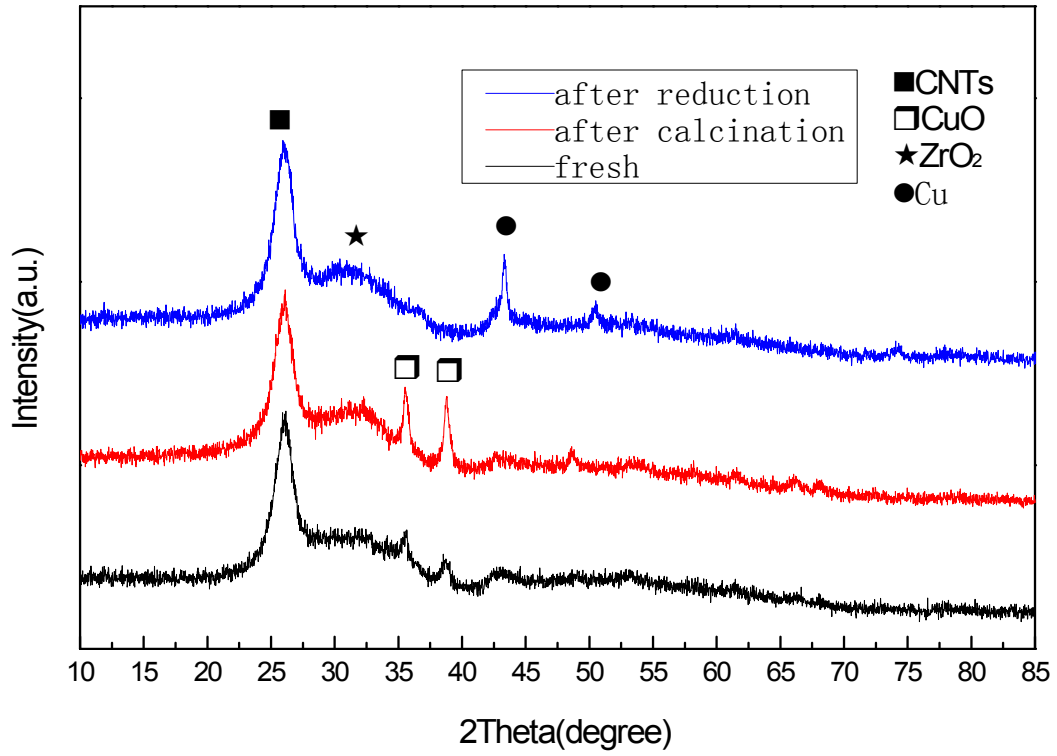
S-2 XPS O1s spectra of various CNTs

S-3 Results of the fits of the XPS O1s region, values given in at.% of total intensity

Sample	Binding energy(eV) and groups		
	531.0-531.8	532.8-533.3	534.2-534.4
	C=O	-C-OH	-COOH
CNTs-1	22.7	66.0	10.3
CNTs-2	21.1	78.9	-
CNTs-3	20.2	66.0	14.8



S-4 XRD patterns of CZ/CNTs-1 after different treatment conditions during the preparation



S-5 XRD patterns of CZ/CNTs-2 after different treatment conditions during the preparation