

Catalytic conversion of propan-2-ol and butan-2-ol on carbon nanotubes with different carbon structures

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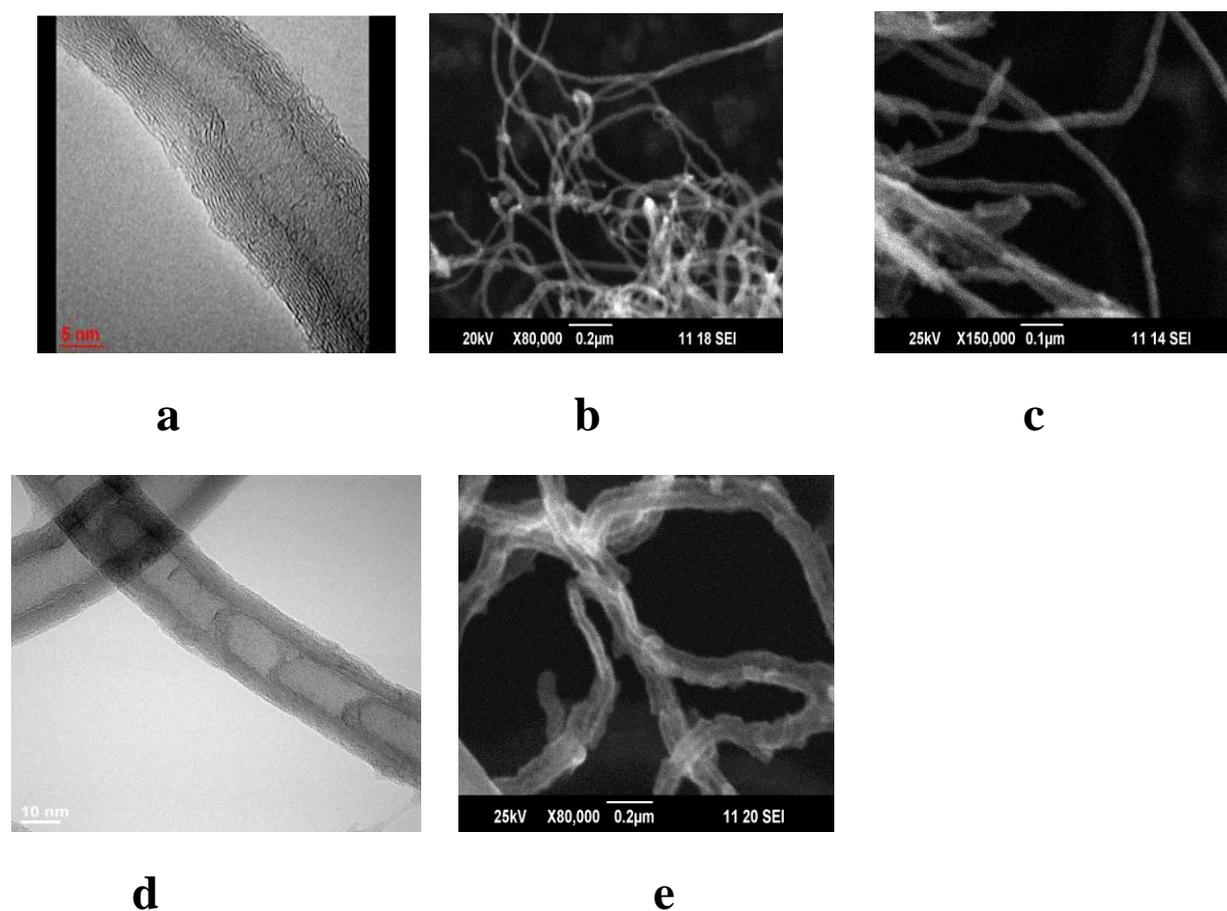
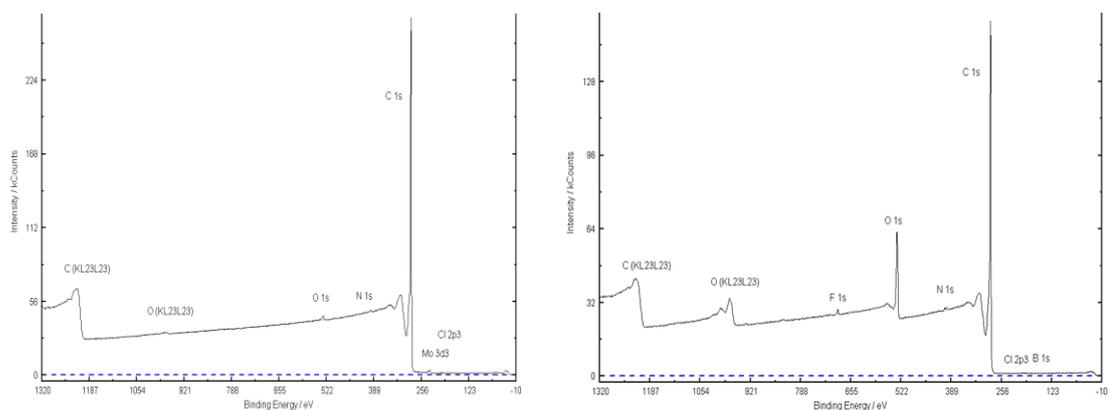
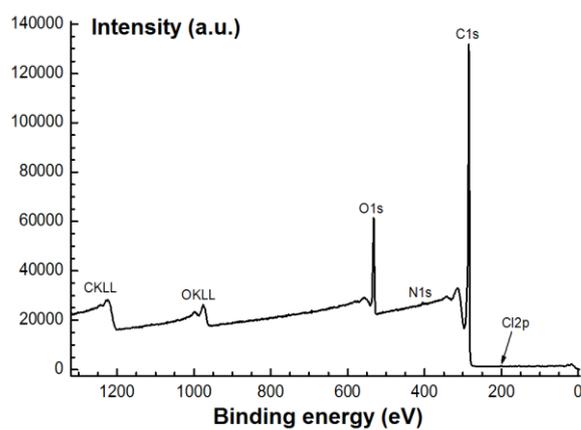


Figure S1 Micrographs of CNTs: (a) TEM image of cylindrical CNTs; (b) SEM image of unoxidized CNTs, (c) SEM image of oxidized CNTs; (d) TEM image of conical CNTs; (e) SEM image of unoxidized conical CNTs.

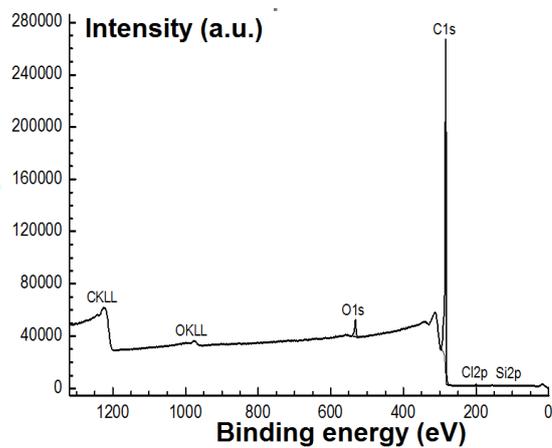


a

b

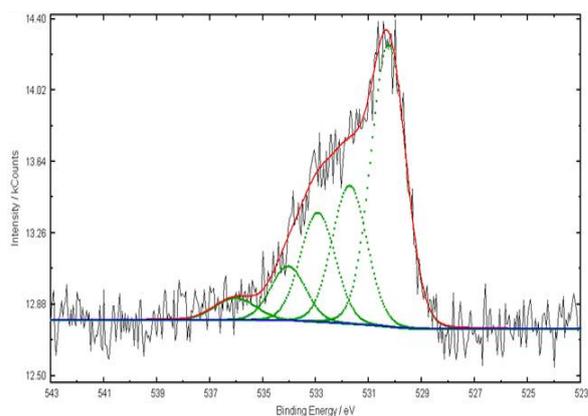


c

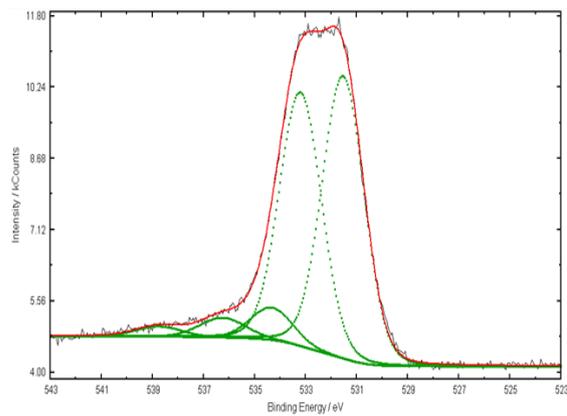


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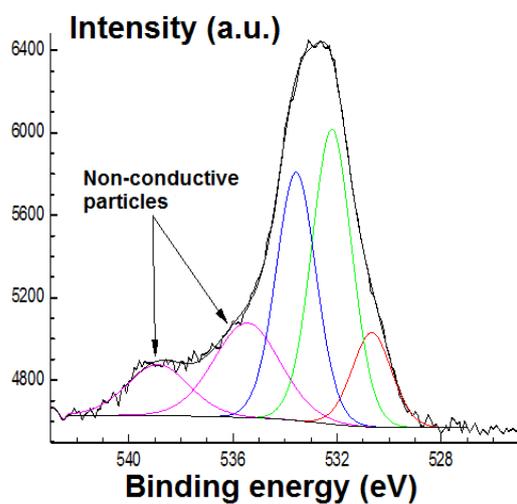
Figure S2 Survey XPS spectra of CNTs: (a) unoxidized cylindrical CNTs; (b) oxidized cylindrical CNTs; (c) oxidized conical CNT; (d) unoxidized conical CNT.



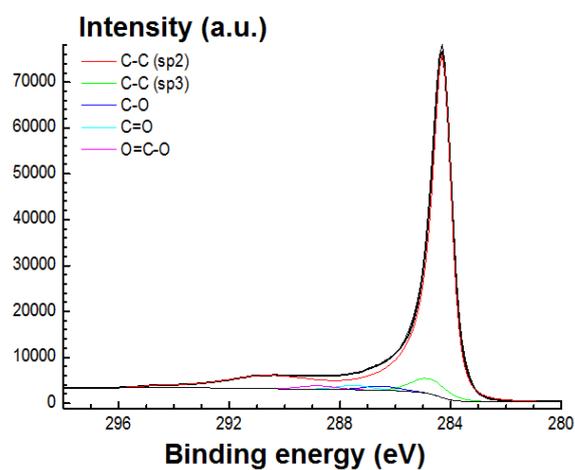
a



b



c



d

Figure S3 High resolution O1s spectra: (a) unoxidized cylindrical CNTs; (b) oxidized cylindrical CNTs; (c) oxidized conical CNTs; (d) C1s spectrum of unoxidized conical CNTs.

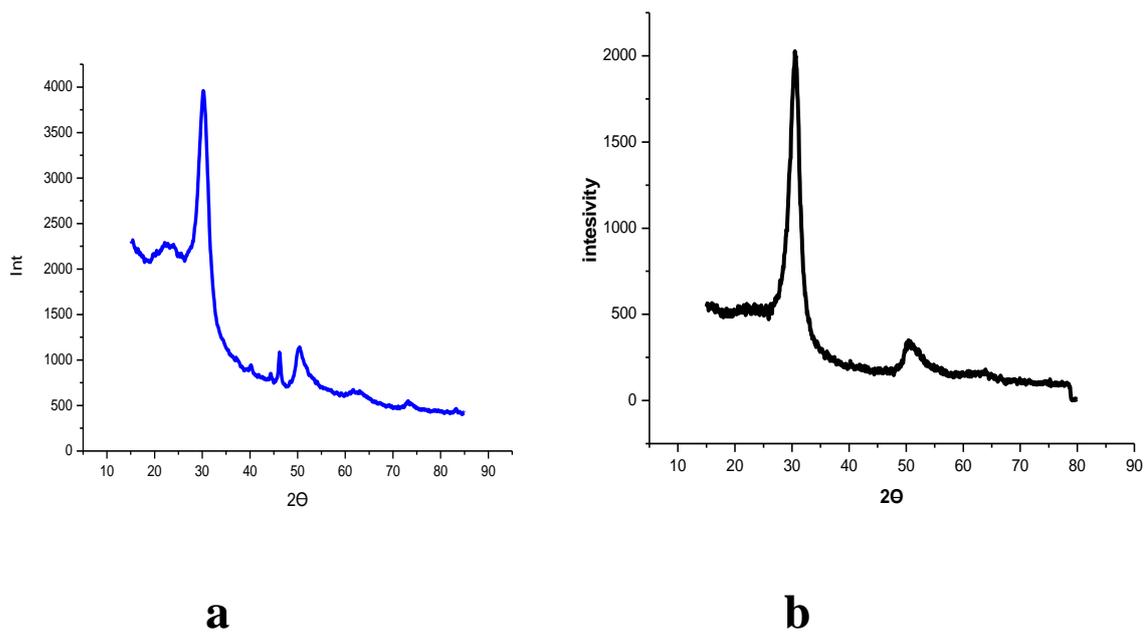


Figure S4 XRD spectra of (a) cylindrical CNT and (b) conical CNT.

Table S1 Elemental composition of nanocarbon catalysts obtained by XPS.

CNT	elemental composition, (at%)			
	C	O	N	Cl
CNTcyl unoxidated	98.89	0.64	0.36	0.02
CNTcyl oxidated	98.42	1.4		0.02
	89.59	9.35	0.62	0.02
CNTcon unoxidated	97.41	2.59		
CNTcon oxidated	90.16	9.41	0.43	0.02