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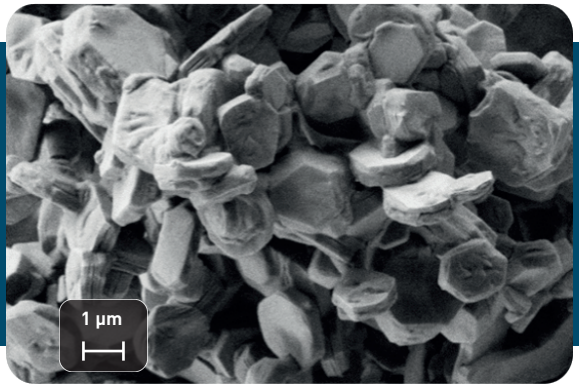
IBUvolt®
NMO



SEM of IBUvolt® NMO

CHEMICAL & PHYSICAL PROPERTIES

ITEM	UNIT	SPECIFICATION	TESTING METHOD
Na	(wt.-%)	13 - 15	ICP-OES
Mn	(wt.-%)	51 - 53	ICP-OES
Specific surface area (BET)	(m^2/g)	1 - 2	N_2 Physisorption
Crystal structure		P2, $Na_{0.7}MnO_2$	X-ray diffraction
Tapped density	(g/cm^3)	1 -1.4	Tapped density tester
PSD, d10	(µm)	1 - 3	Laser diffraction
PSD, d50		2 - 5	Laser diffraction
PSD, d90		7 - 12	Laser diffraction
PSD, d99		< 40	Laser diffraction

CAPACITY TESTS (COIN CELLS)

ITEM	UNIT	TYPICAL VALUE	SPECIFICATION
Specific capacity 0.1 C*	(mAh/g)	155	⩾ 150
Coulomb efficiency 2nd cycle	(%)	> 98	

*Half cells, 26 °C, 3 mg/cm², PC|FEC|$NaClO_4$, 2nd cycle discharge CC 4.4 - 2.0 V

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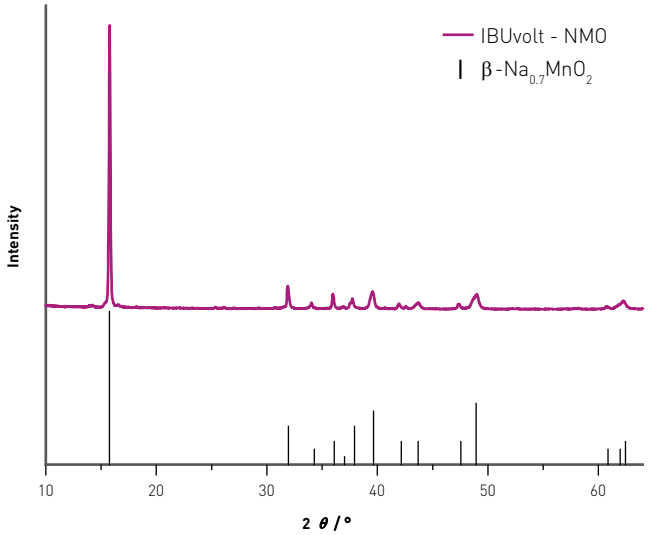
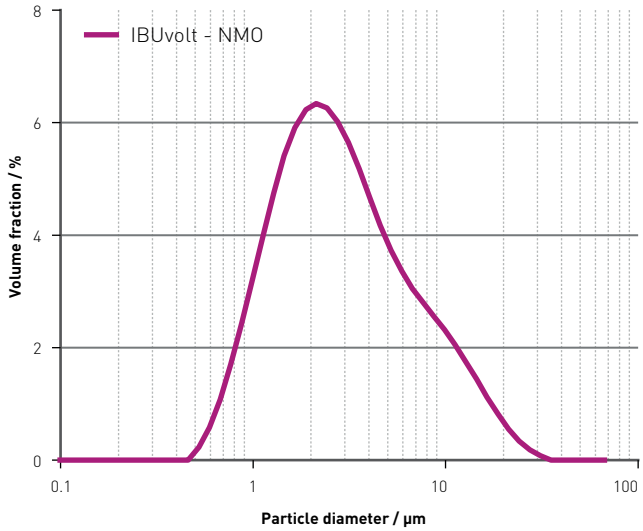
CHEMICAL & PHYSICAL CHARACTERIZATION

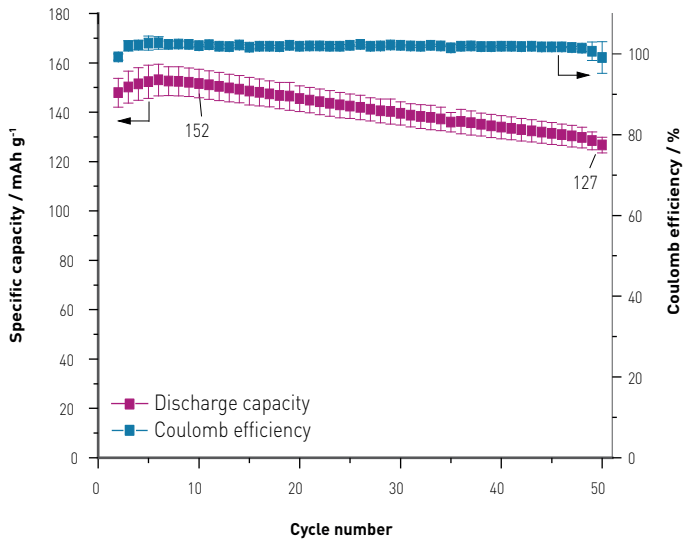


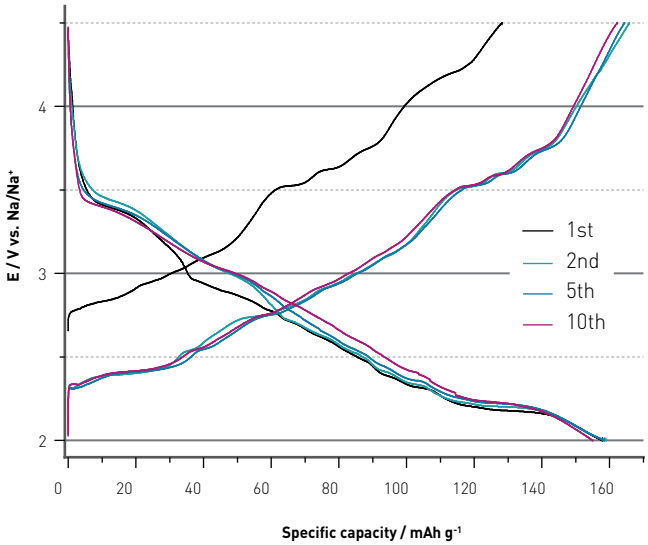
Powder X-ray Diffractogramm



Particle Size Distribution

ELECTROCHEMICAL CHARACTERIZATION (COIN CELLS)





Discharge Capacity and Coulomb Efficiency over 50 Cycles (left) and Voltage-Capacity Curve (right)
Half Cell, 26°C, 0.1C, sodium anode, 1M $NaClO_4$/PC/FEC electrolyte