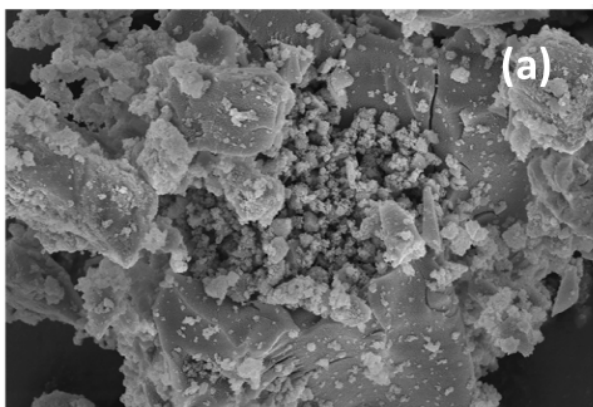
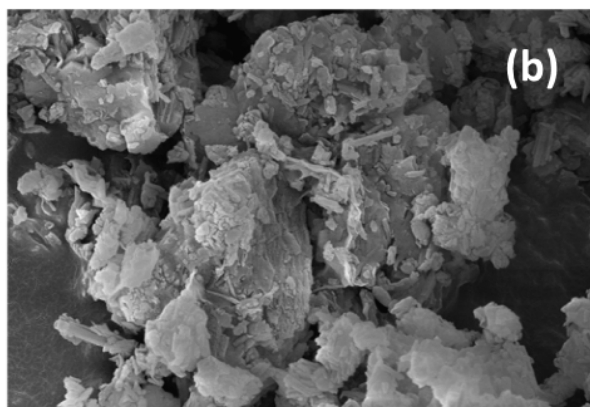


Supplementary information

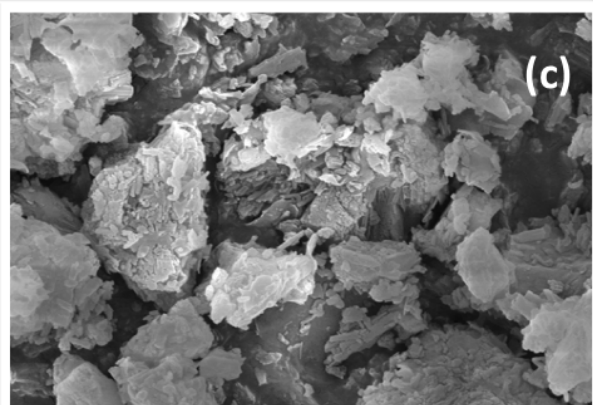
S1 FESEM images of ZT₄M at different microwave power levels. a) 180 W, b) 360 W, c) 540 W, d) 720 W, and e) 900W



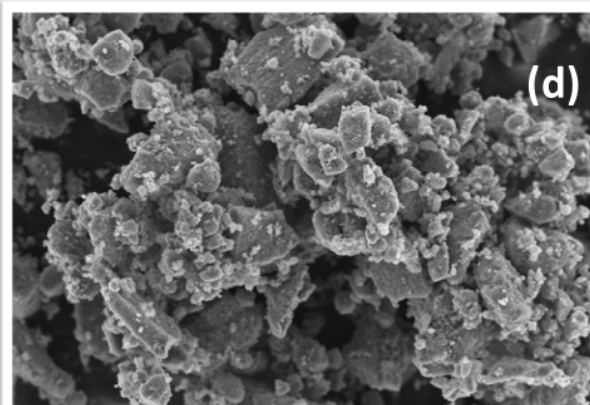
1 µm EHT = 10.00 kV Signal A = InLens System Vacuum = 1.54e-06 mbar
WD = 8.0 mm Mag = 10.00 K X Gun Vacuum = 1.82e-09 mbar ZEISS



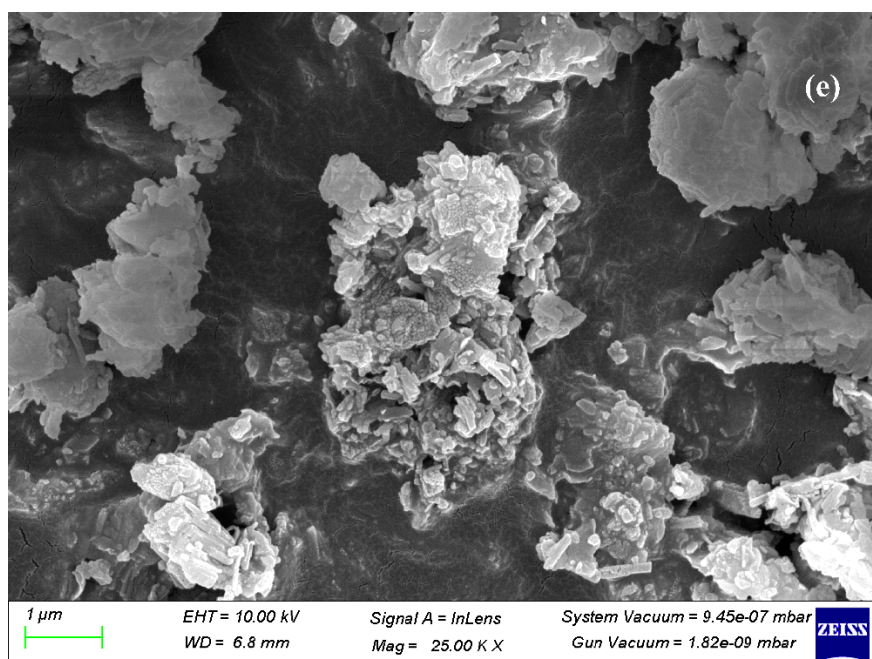
1 µm EHT = 10.00 kV Signal A = InLens System Vacuum = 8.44e-07 mbar
WD = 6.8 mm Mag = 25.00 K X Gun Vacuum = 1.82e-09 mbar ZEISS



1 µm EHT = 10.00 kV Signal A = InLens System Vacuum = 7.75e-07 mbar
WD = 6.8 mm Mag = 25.00 K X Gun Vacuum = 1.82e-09 mbar ZEISS



1 µm EHT = 5.00 kV Signal A = InLens ESB Grid = 0 V Date: 2 Sep 2016
WD = 3.2 mm Mag = 10.14 K X ESB Grid is = 0 V Time: 9:58:00 ZEISS



1 µm EHT = 10.00 kV Signal A = InLens System Vacuum = 9.45e-07 mbar
WD = 6.8 mm Mag = 25.00 K X Gun Vacuum = 1.82e-09 mbar ZEISS

S2 XRF analysis a)ZT₁ b)ZT₂ c) ZT₃ d)ZT₄ e)ZT₅

