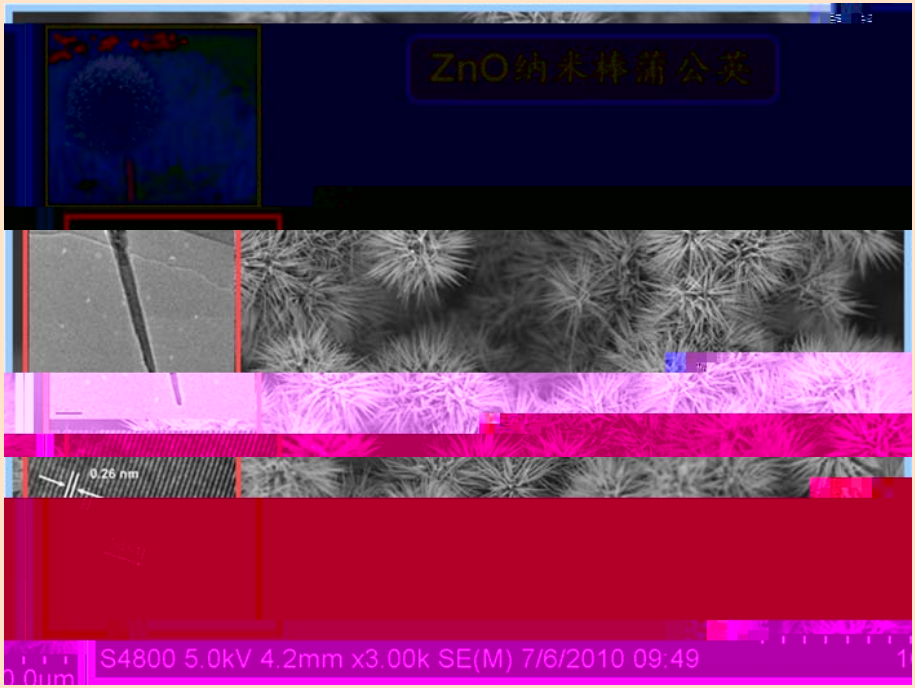
ZnO II-VI 3.4 eV
ZnO 60 meV



ZnO

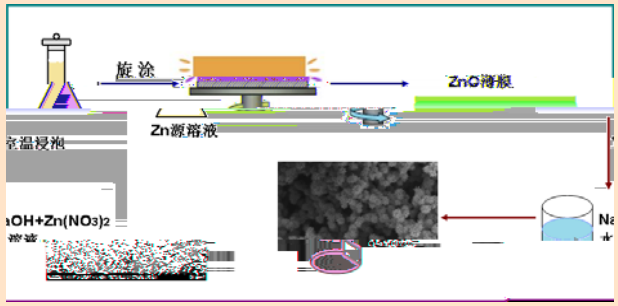
ZnO

ZnO Si ZnO

$Zn(NO_3)_2$

25

1 “ ”



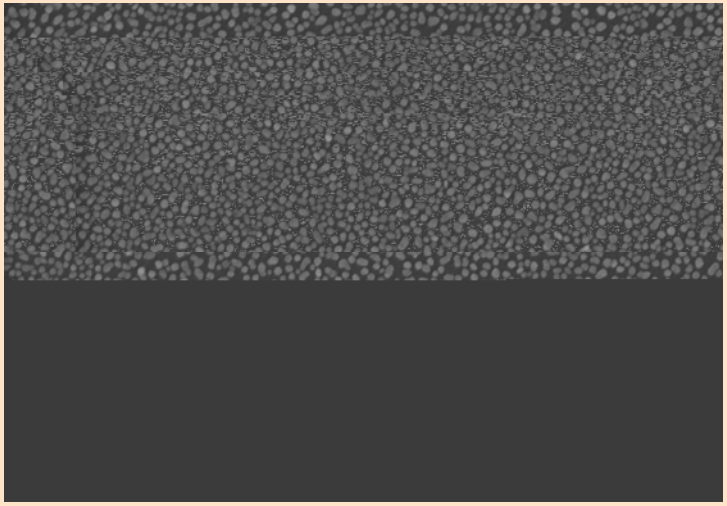
1 ZnO

ZnO

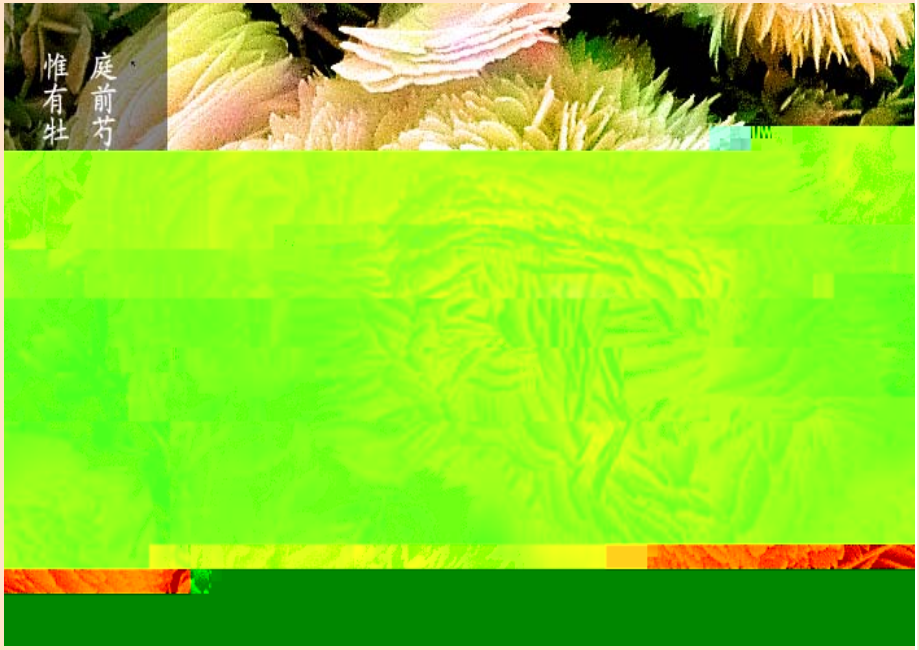
d=0.260nm ZnO

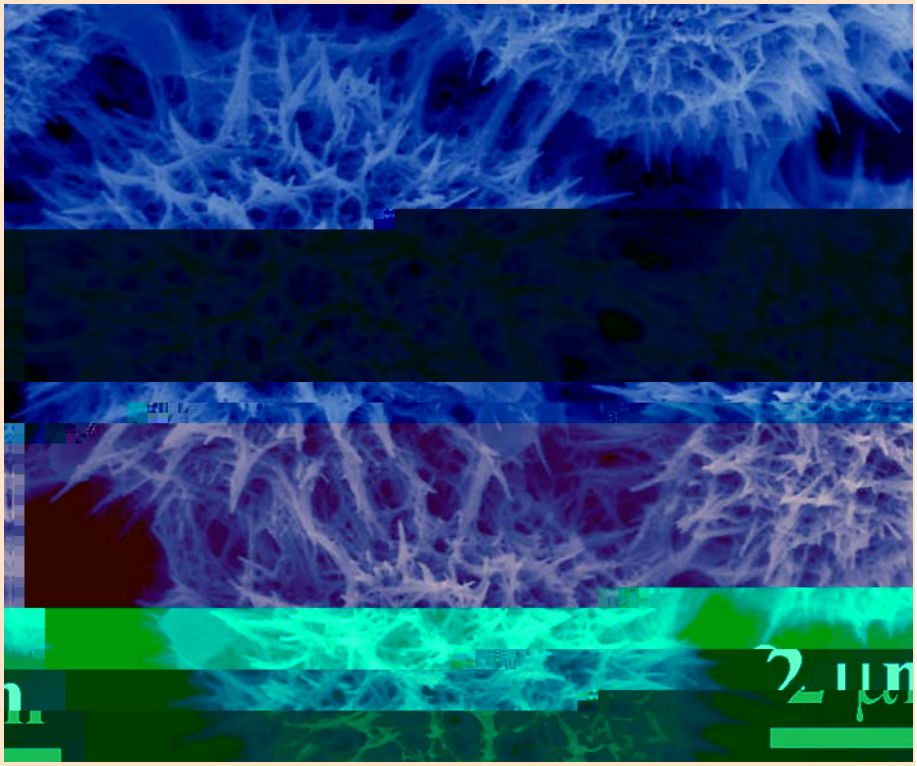
0001

1 10 Ag SEM



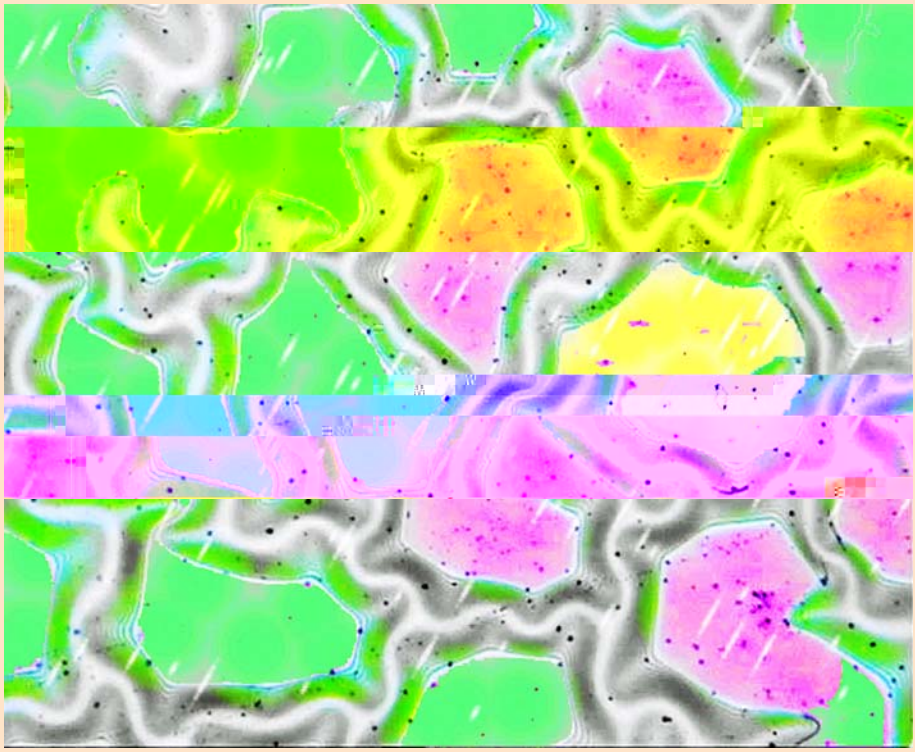
2 4 Ag SEM


庭前芍
惟有牡



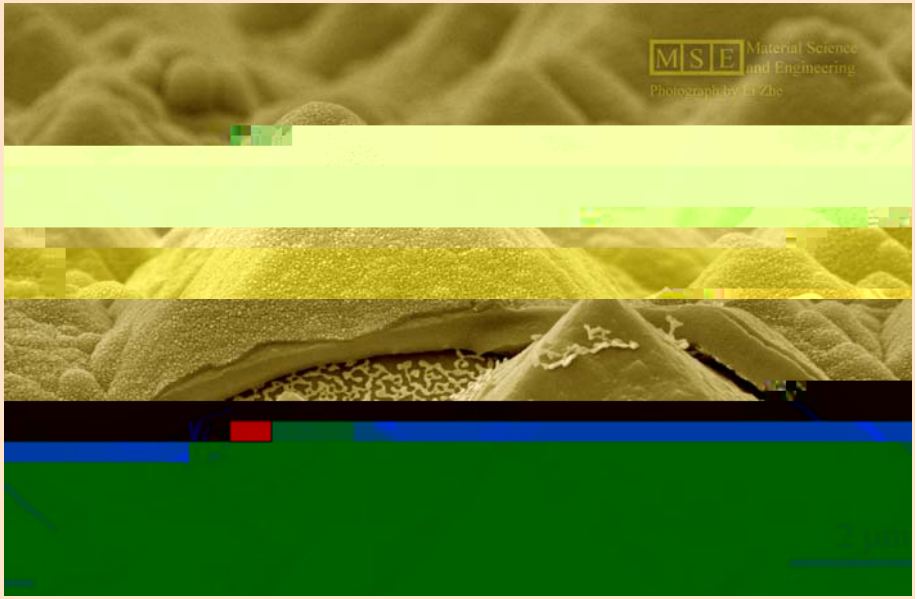
μ


1 µm



Au

PECVD Au



Hitachi S4800 Photoshop

“ ”

PbTe

PbTe PbTe

PbTe

PbTe f.c.c. 6 {100} 8 {111}

[100] [111] f.c.c. PbTe

{111} {100} [111] [100]

f.c.c. {100} Berg effect (

,X) Pb Te PbTe

{100}

<100> NaOH

$LiFePO_4$/C/CF $LiFePO_4$

3~5nm C

$LiFePO_4$ CF

C CF HRTEM

18

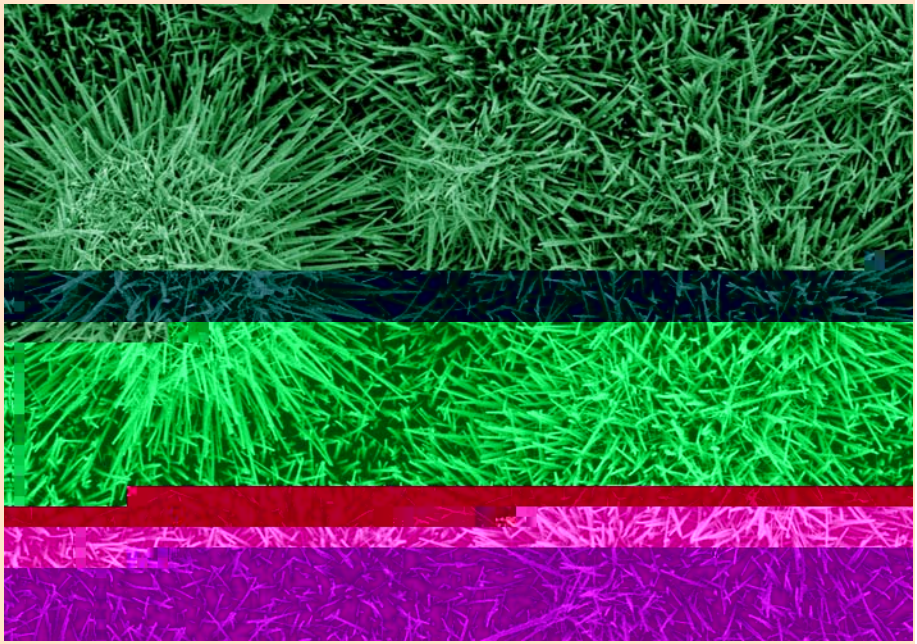
TEM CuO

500 200-300 20-50

CuO

CuO

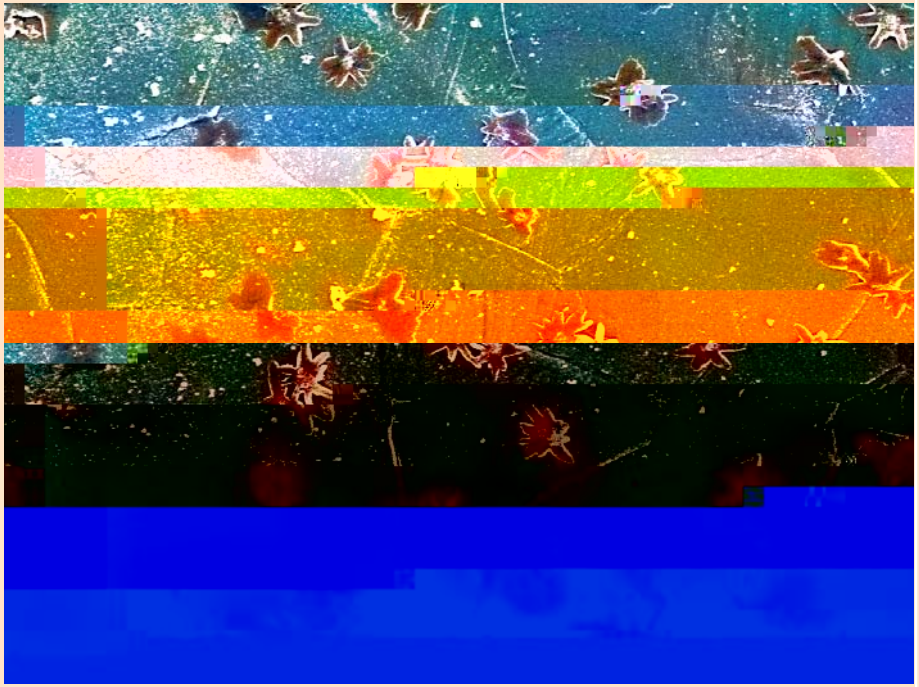
1200 mAh g^{-1} 50 600 mAh g^{-1}

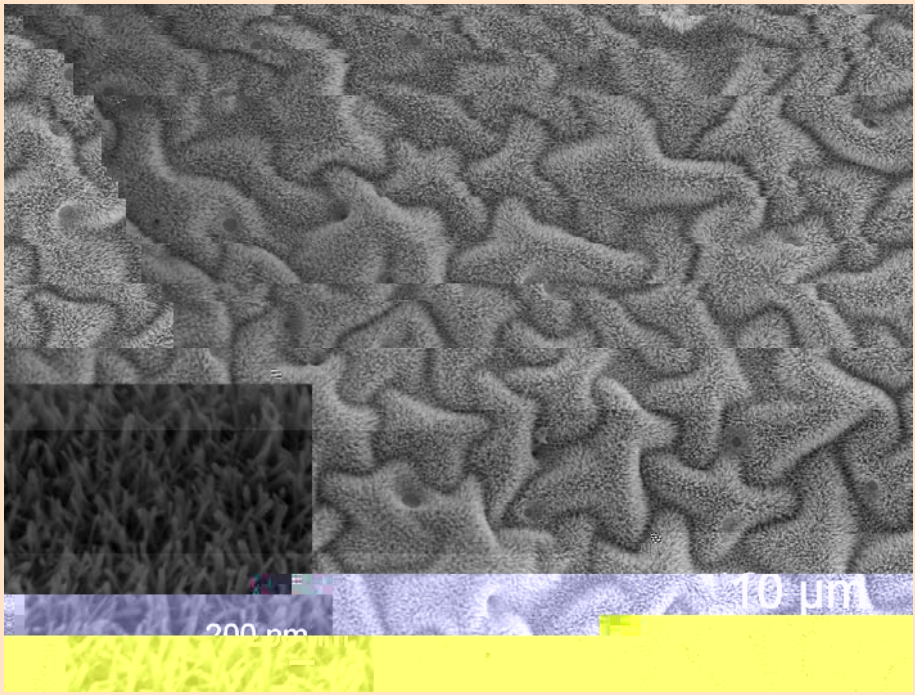


WO_3

100 nm

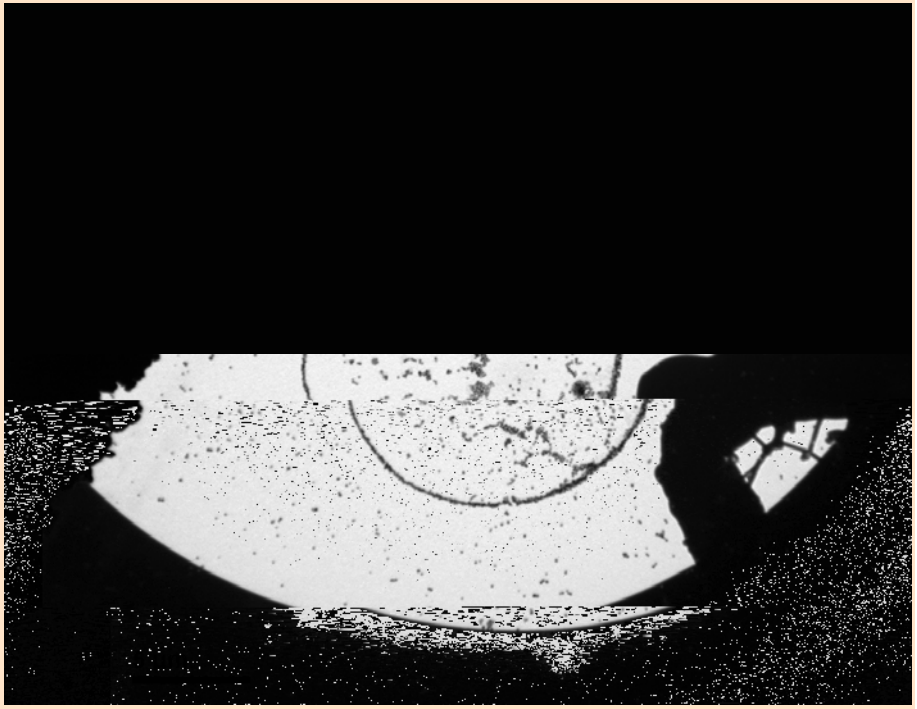
159





Hitachi S-4800 25 nm

…

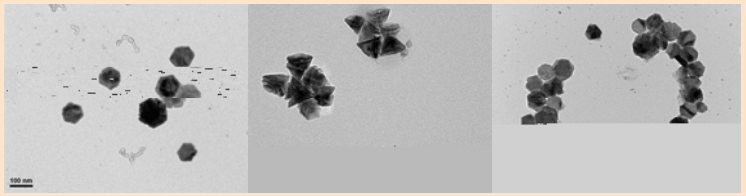


4000

1

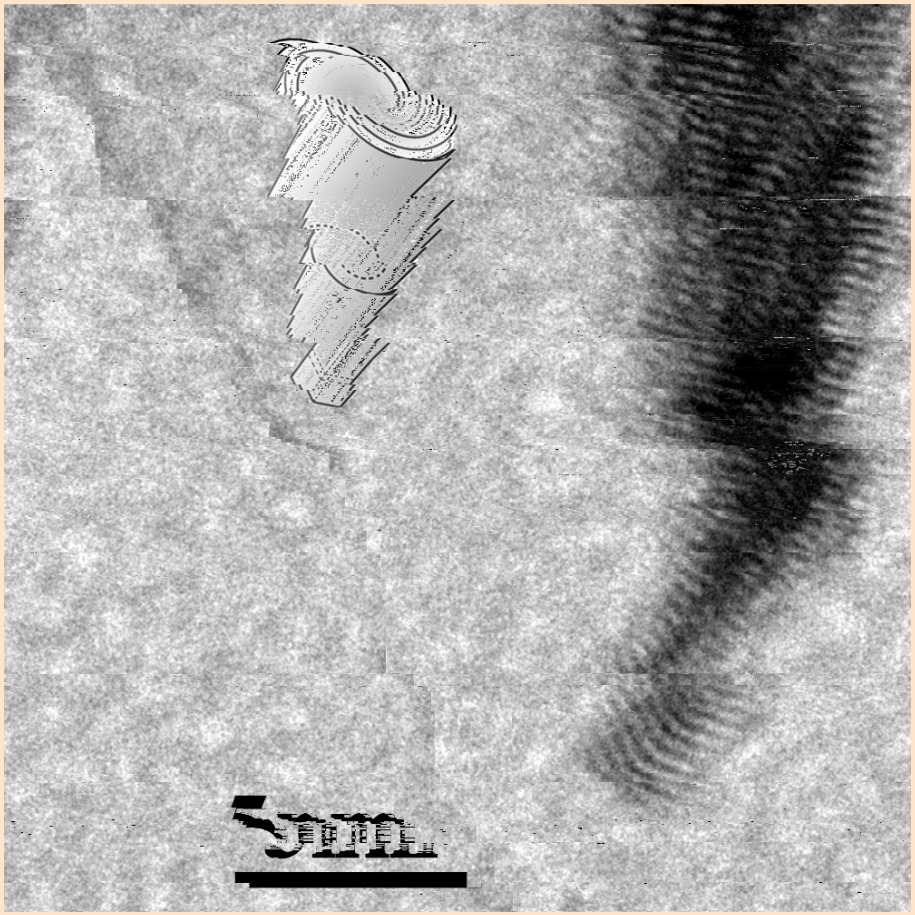
2

3



1 15 2

20 3 12



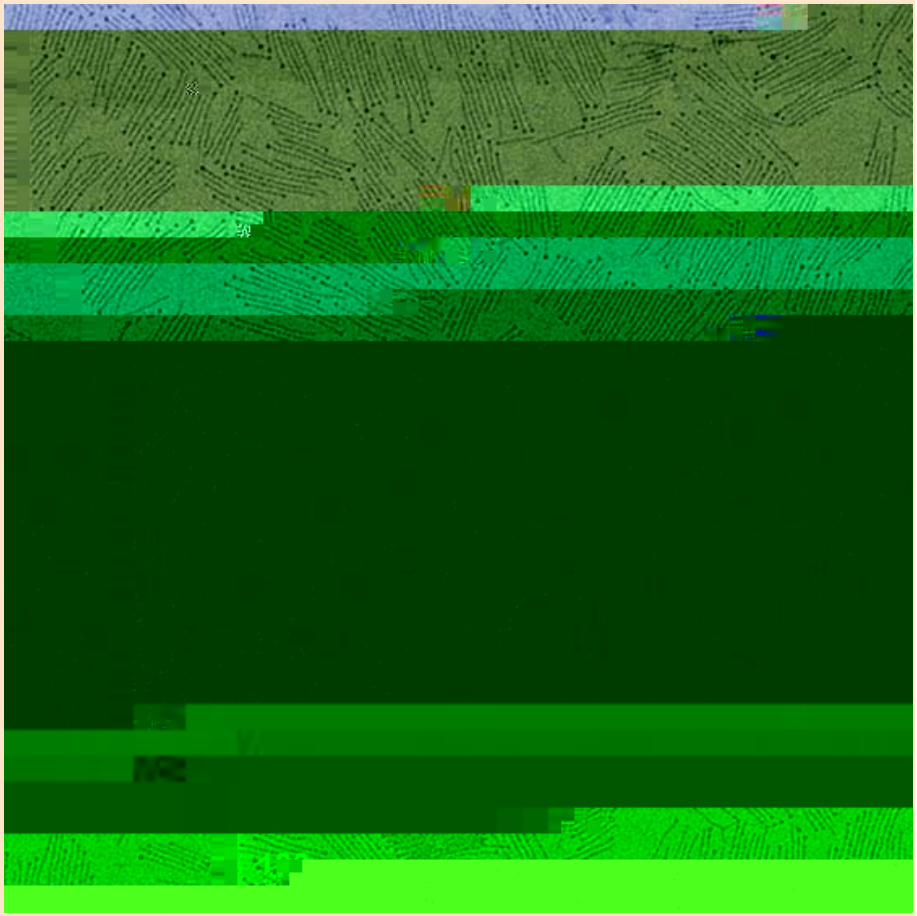
TEM

200 kV

TEM

0.347 nm

PDF 41-1445 {110}



(Philips CM200 160 kV)

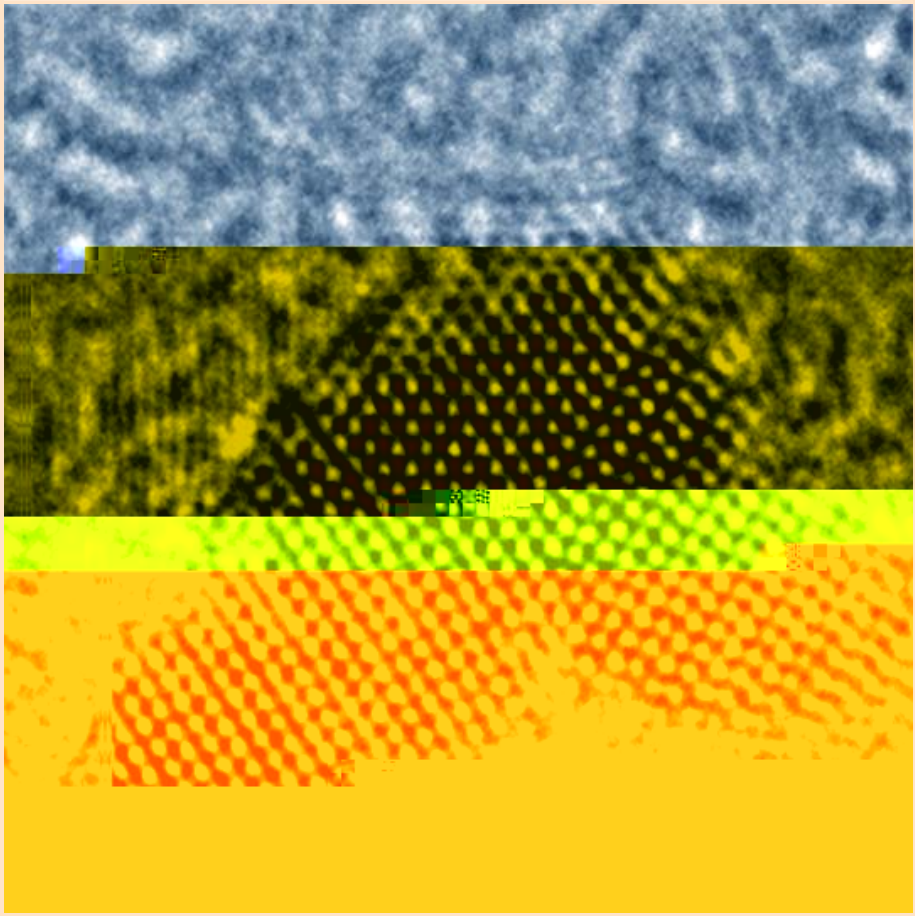
1.4 60 ZnMgO
ZnMgO 3 ZnMgO

1~2

Mg
ZnO ZnMgO

Mg ZnO

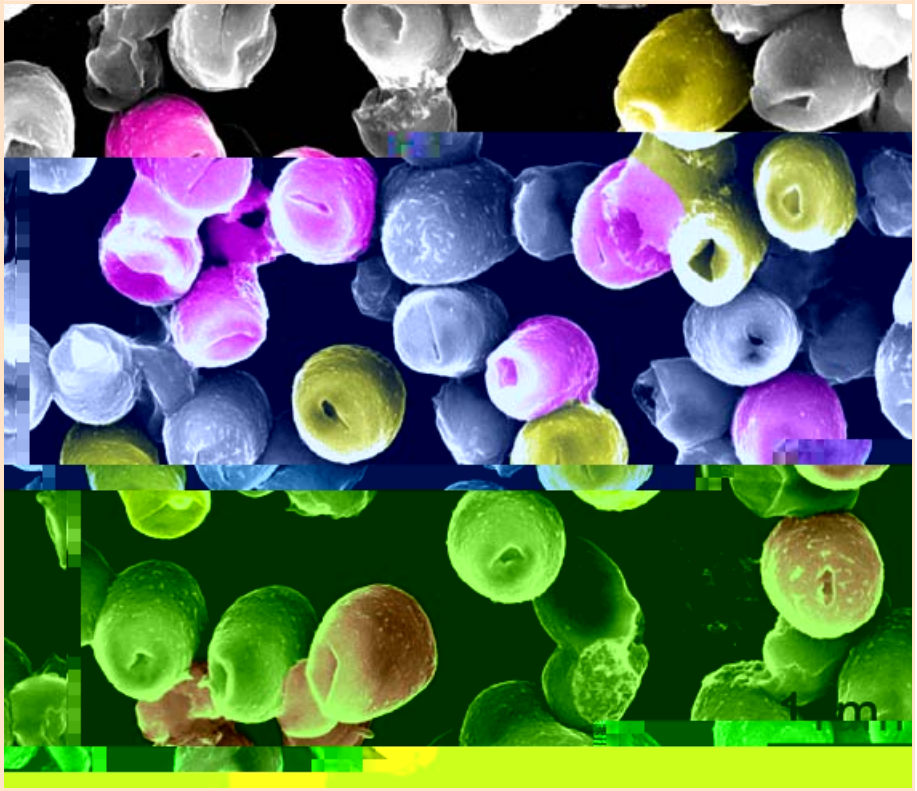
(JACS
8.58) (J. Am. Chem. Soc., 2010, DOI: 10.1021/ja103956p)



(HRTEM FEI TECNAI G2 F20 160 kV)
Mg ZnO (Tetrapod)
(Zincblende)
ABCABC (Wurtzite)
ABAB

(tetrapod)
(1)
(2)
tetrapod

Mg ZnO (tetrapod)
ZnO (Wurtzite)
Mg
ZnO
(JACS 8.58) (J. Am. Chem. Soc., 2010, DOI: 10.1021/ja103956p)


1 µm