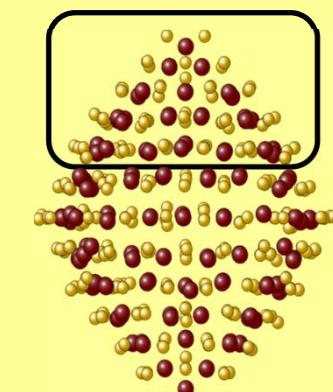
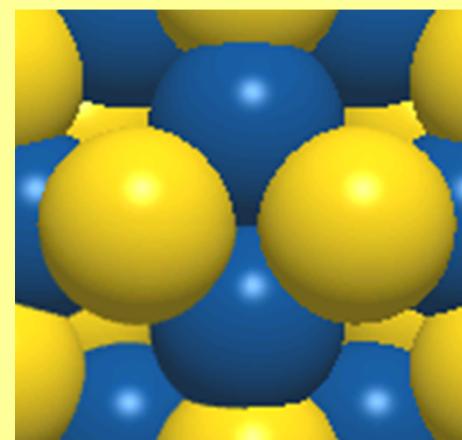
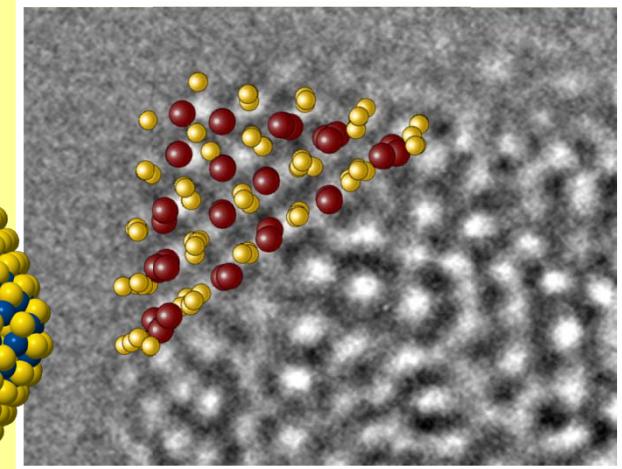
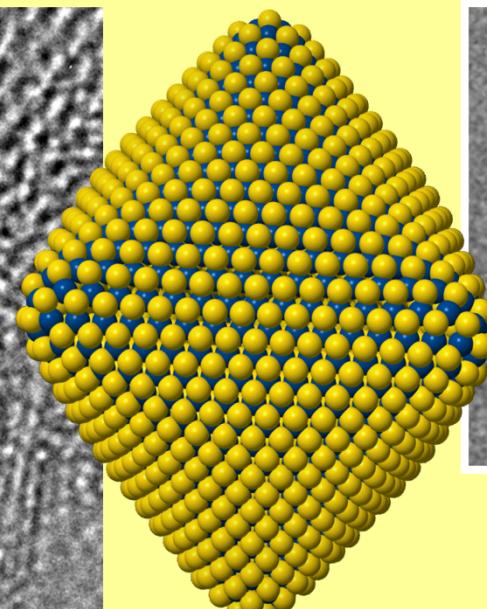
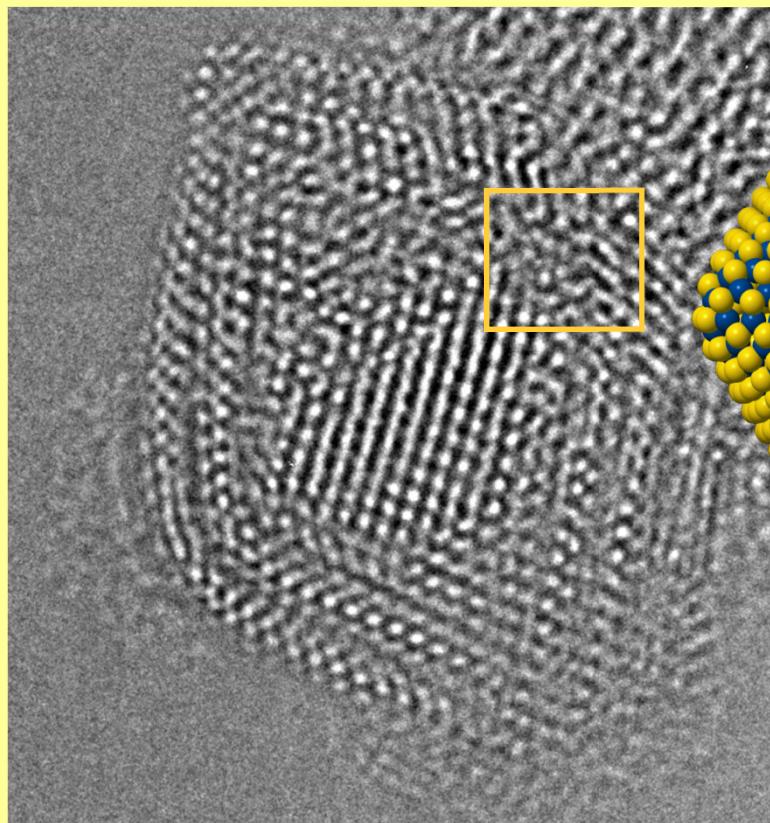


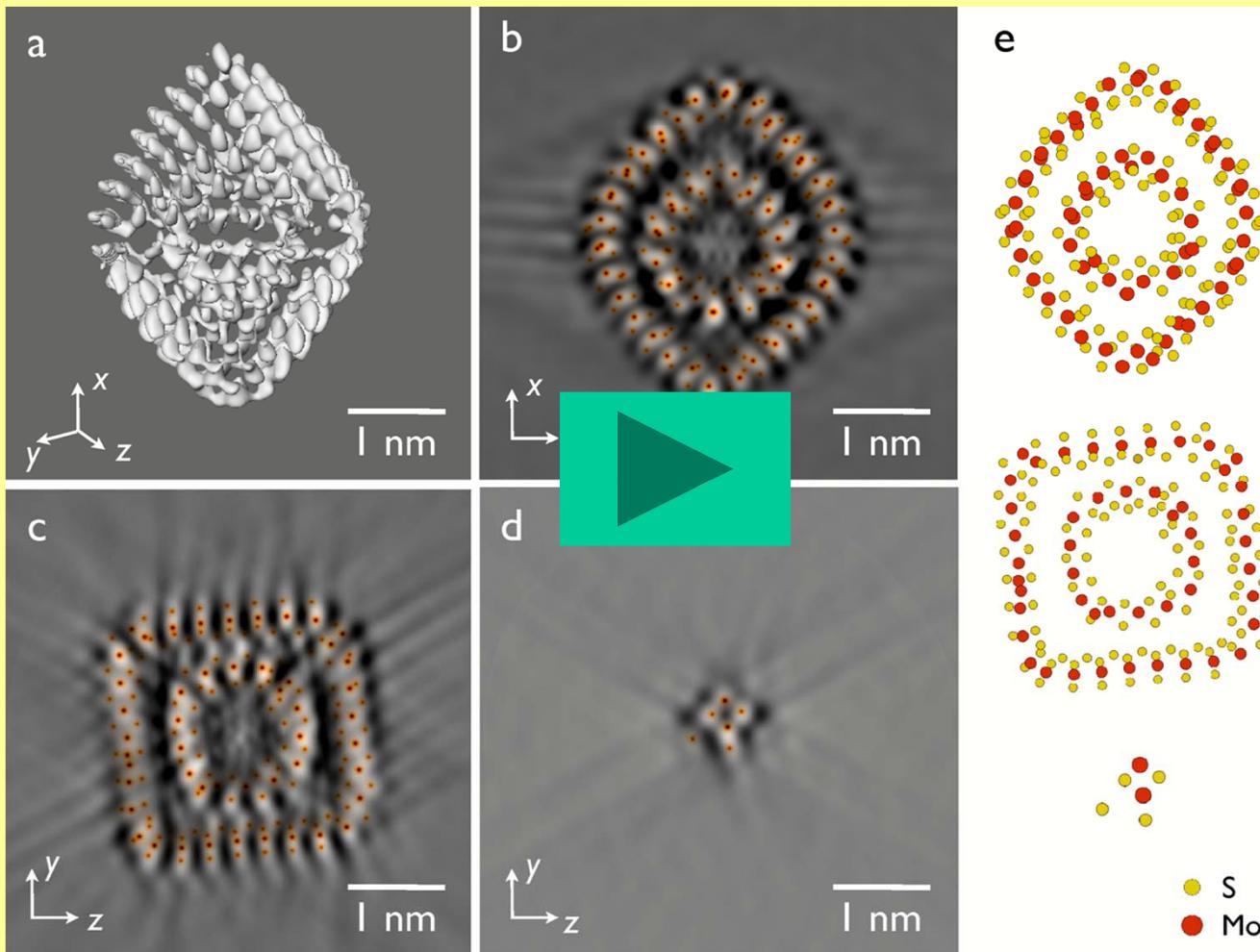
Ultra High Resolution TEM of MoS₂ Nanoctahedra



Mo | S

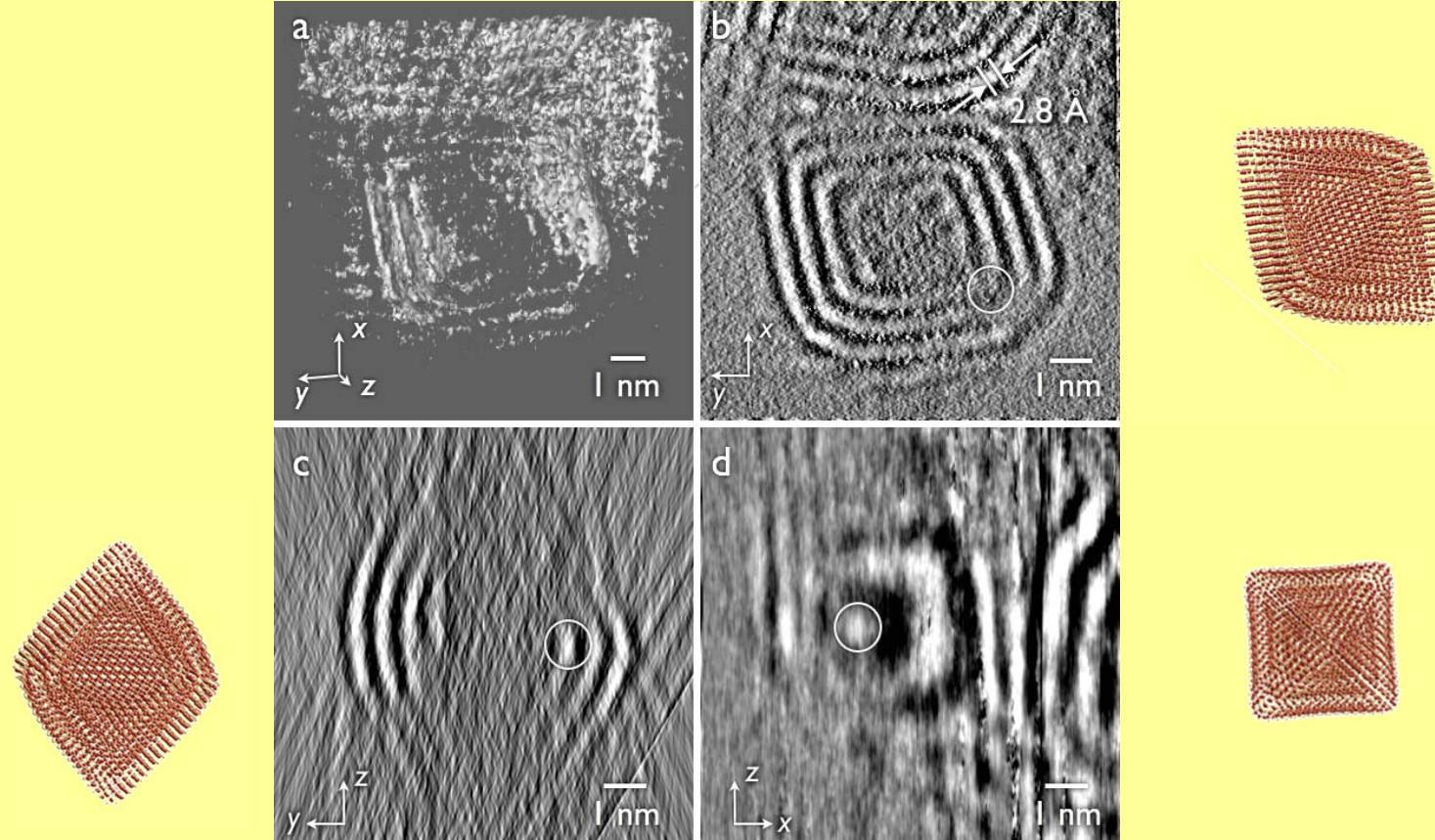
M. Bar Sadan, L. Houben, A. Enyashin, G. Seifert, and R.Tenne, *Proc. Natl. Acad. Sci*
105, 15643 (2008)

High Resolution Tomography of MoS₂ Nanoctahedra (simulation)



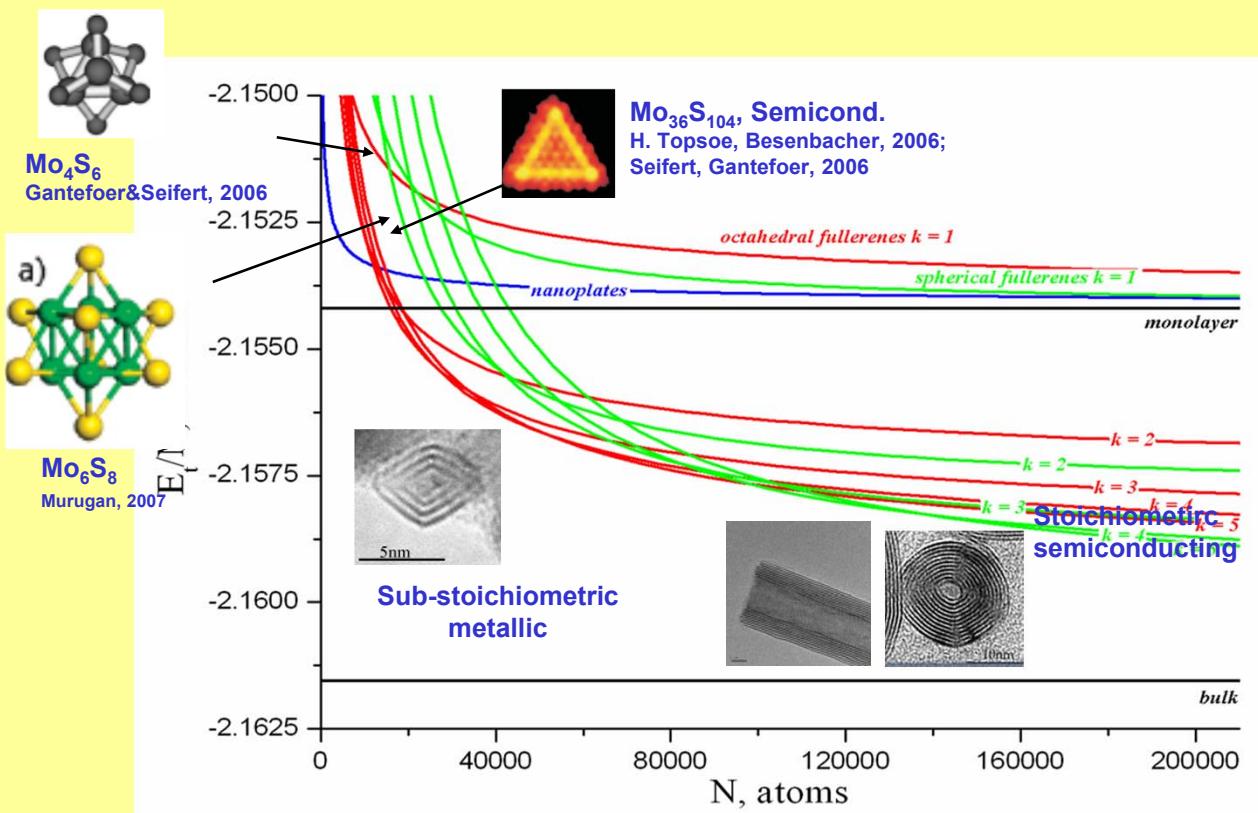
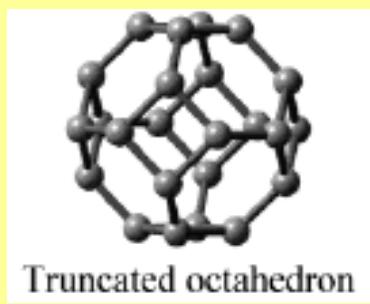
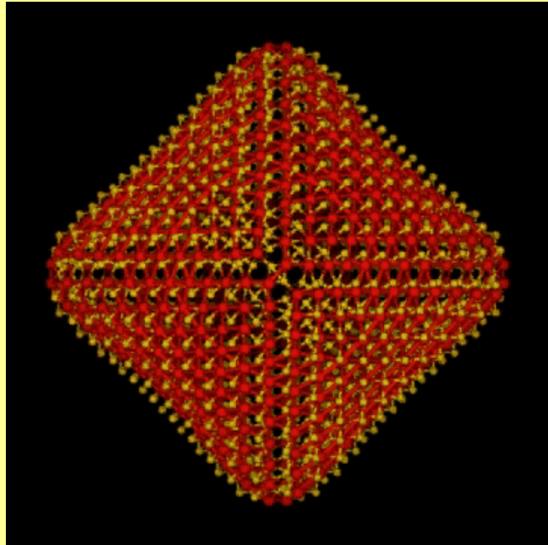
M. Bar Sadan, L. Houben, S. Wolf, A. Enyashin, G. Seifert, R. Tenne, and K. Urban,
NanoLett., 8, 891 (2008)

High Resolution TEM-Tomography of MoS₂ Nanooctahedra (experimental)



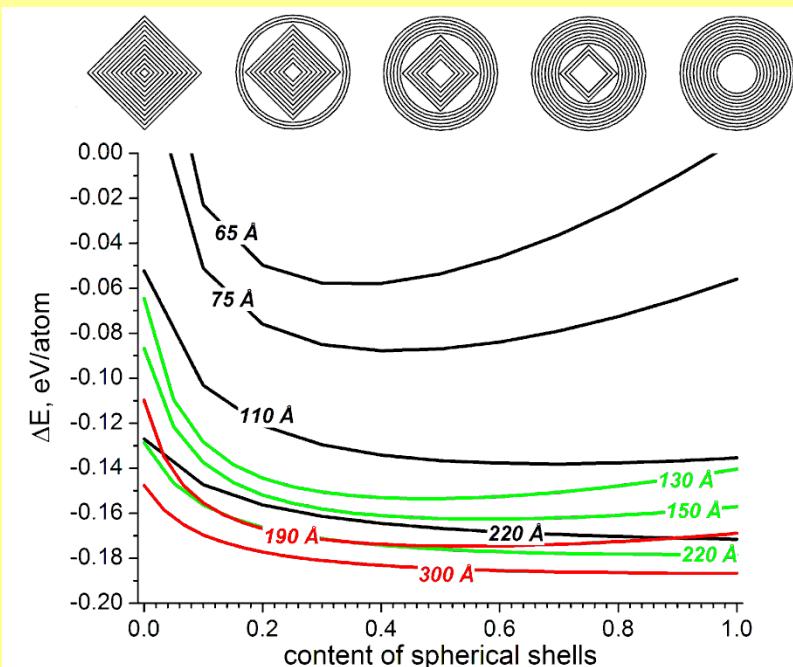
M. Bar Sadan, L. Houben, S. Wolf, A. Enyashin, G. Seifert, R. Tenne, and K. Urban,
NanoLett., 8, 891 (2008)

DFT-TB calculated MoS₂ nanoctahedra



A.N. Enyashin, S. Gemming, M. Bar-Sadan, R. Popovitz-Biro, Y. Prior, R. Tenne, G. Seifert, *Angew. Chem. Int'l. Ed.*, 46, 623 (2007) & M. Bar-Sadan et al. *J. Phys. Chem. B*, 110, 25399 (2006)

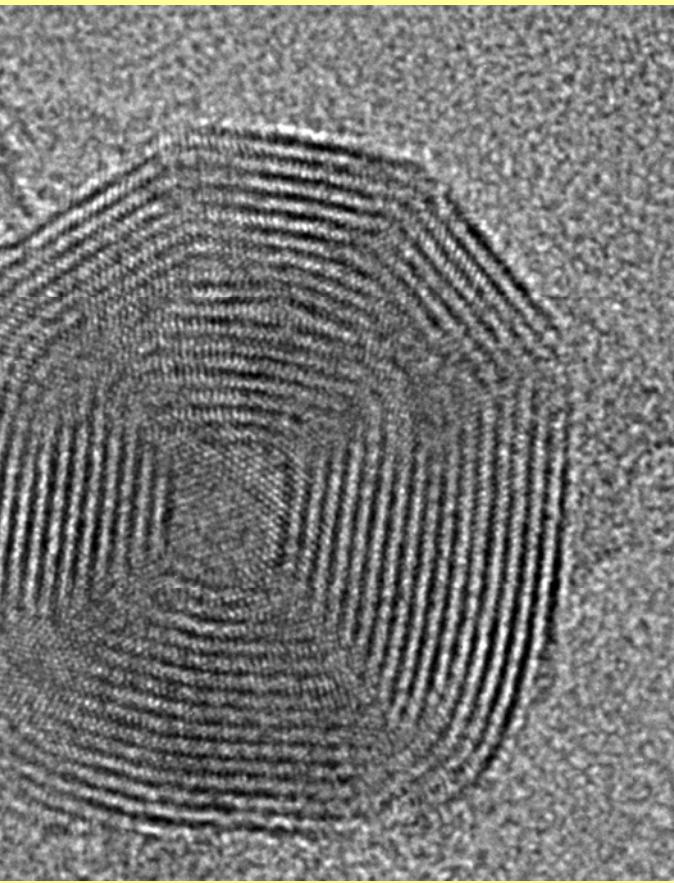
IF-MoS₂ produced by solar ablation at >2000 °C (transition from laser ablation to furnace synthesis of IF nanoparticles)



10 lay

20 layers

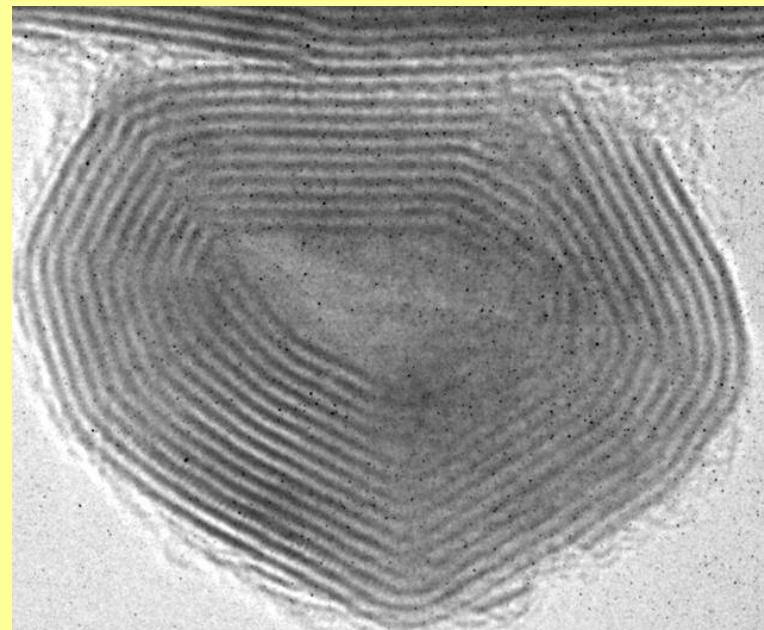
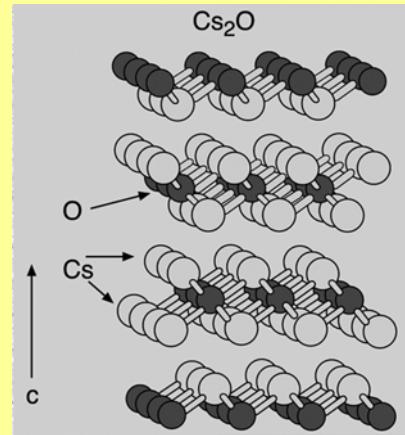
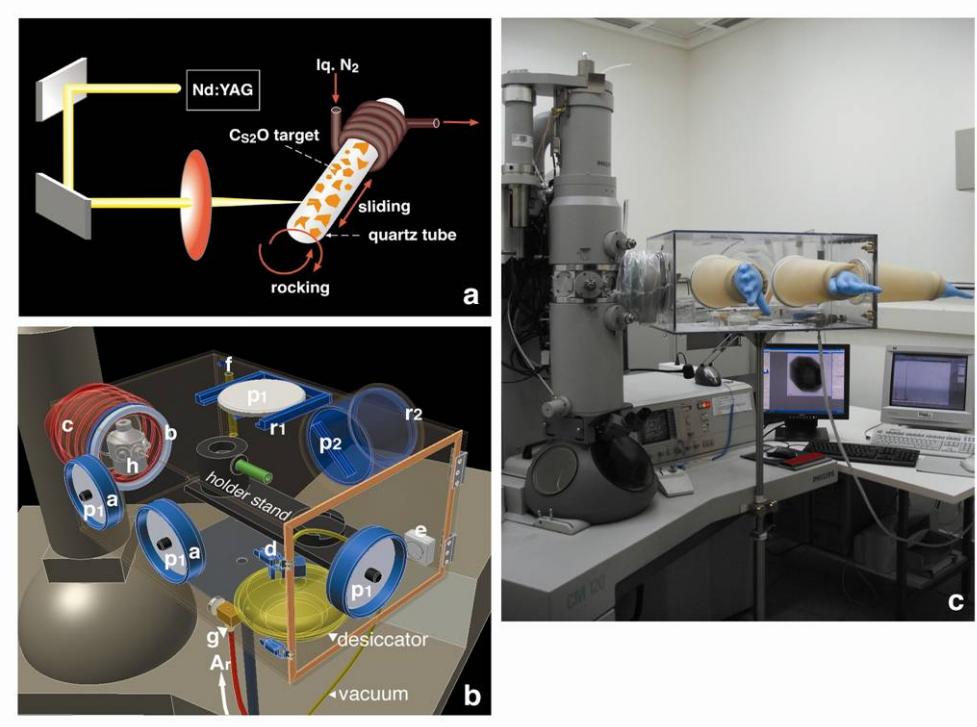
30 layers



5 nm

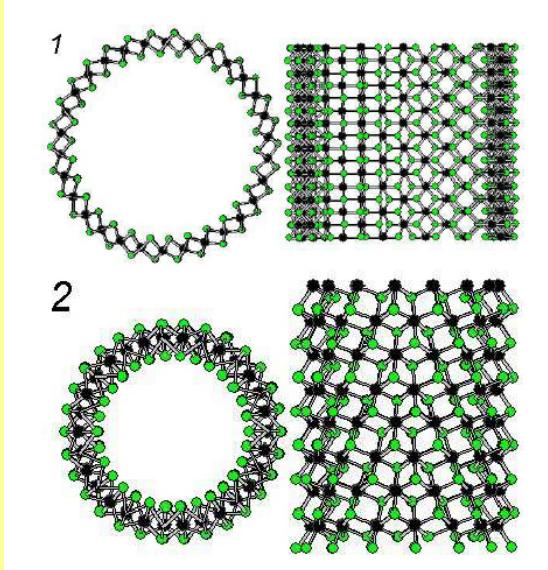
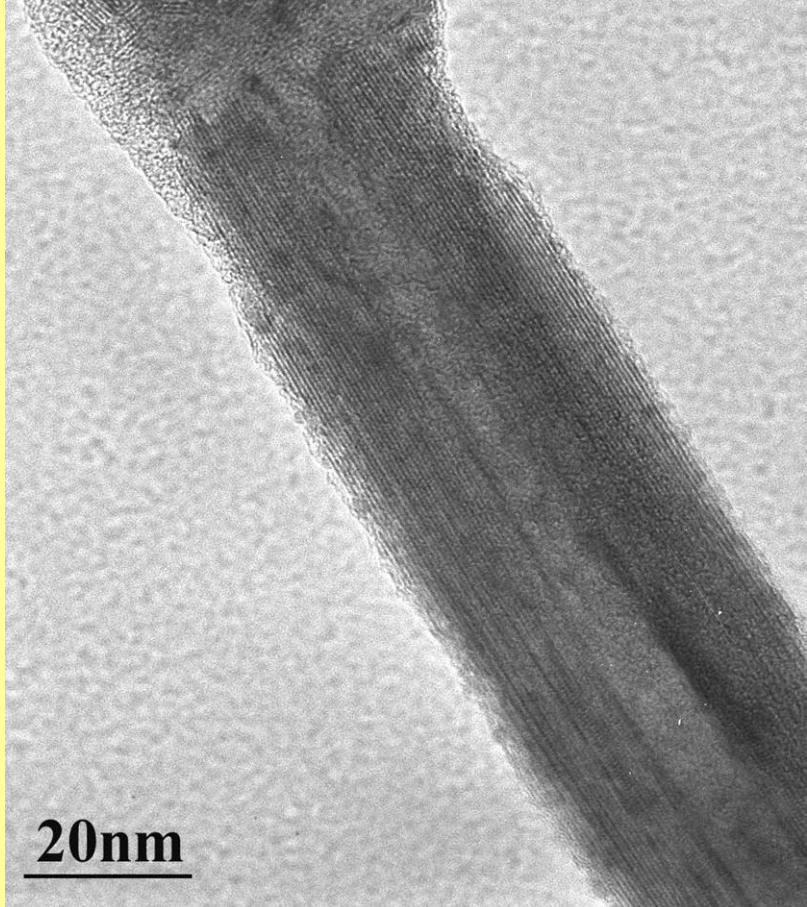
M. Levy, A. Albu-Yaron, R. Popovitz-Biro, J. Gordon, D. Feurman, E. Katz, A. Enyashin, G. Seifert, and R. Tenne, *Angew. Chem. Intl. Ed.*, 50, 1810 (2011)

Stable IF- Cs_2O nanostructures



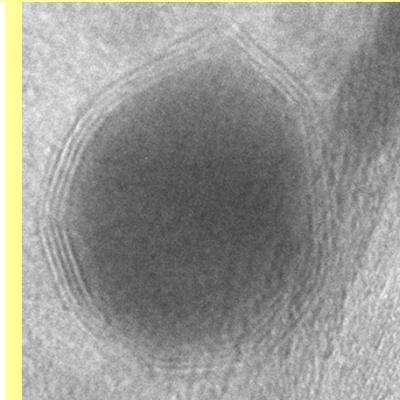
A. Albu-Yaron, M. Bar-Sadan, T. Arad, R. Popovitz-Biro, Y. Prior, M. Jansen, R. Tenne, *Angew. Chem. Int. Ed.*, 44, 4169 (2005); A. Albu-Yaron, T. Arad, M. Levy, R. Tenne, E.A. Katz, D. Feuermann, J.M. Gordon, *Adv. Mater.*, 18, 2993 (2006)

NiCl₂ nanotube prepared by laser ablation



1. (15,15) armchair; 2. (15,0) zig-zag, A. Ivanovskii and co-workers
Phys. Solid State, 47, 527 (2005)

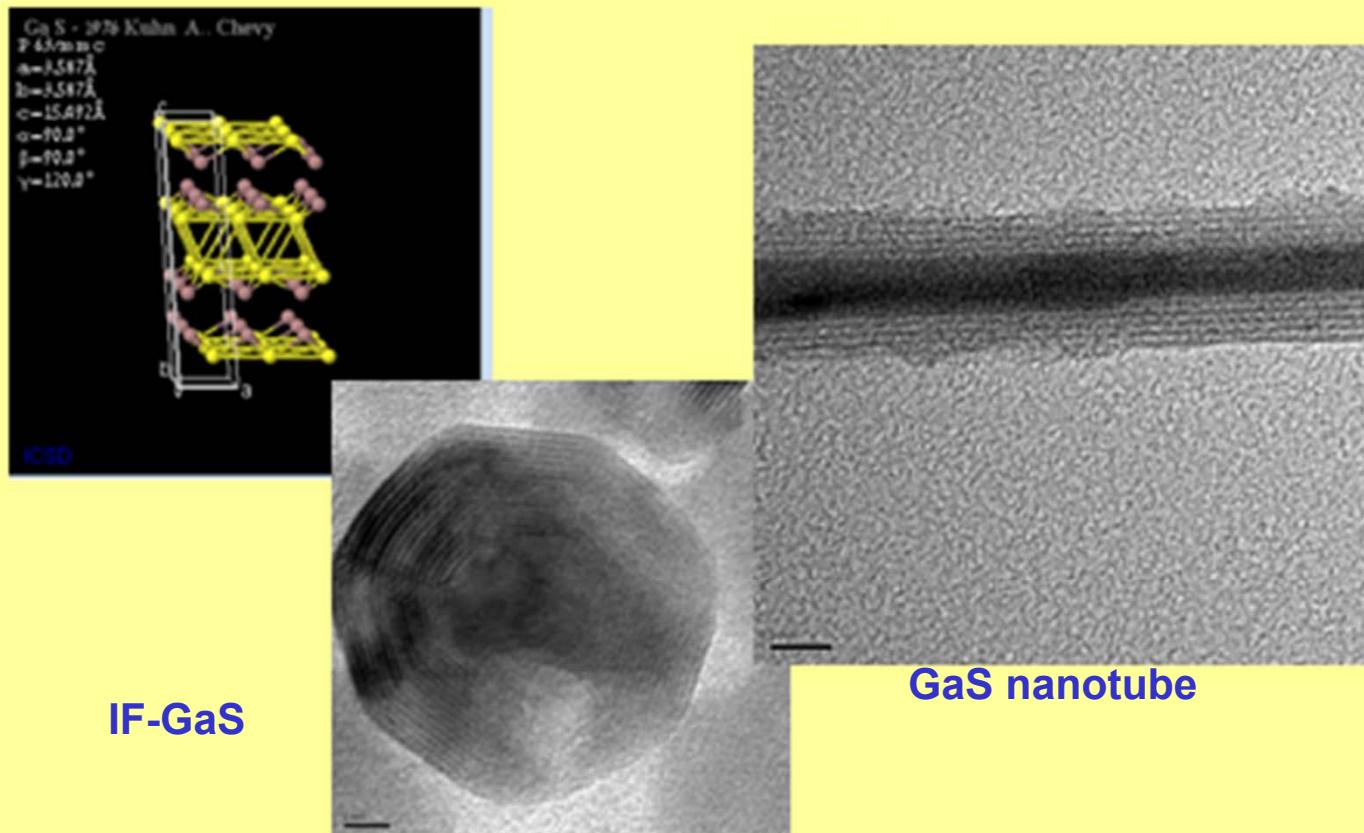
NiBr₂



M. Bar-Sadan et al.,
Mater. Res. Bull.
41, 2137 (2006)

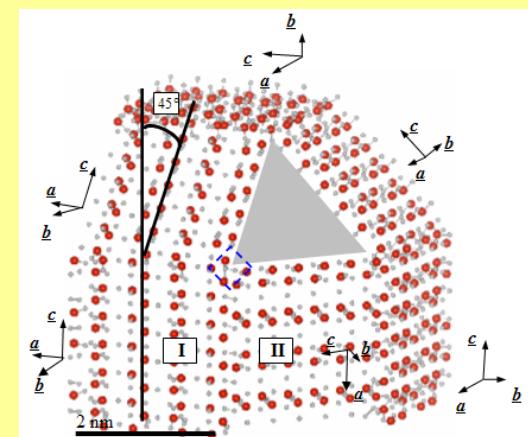
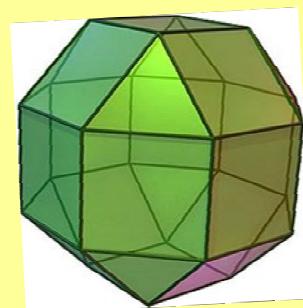
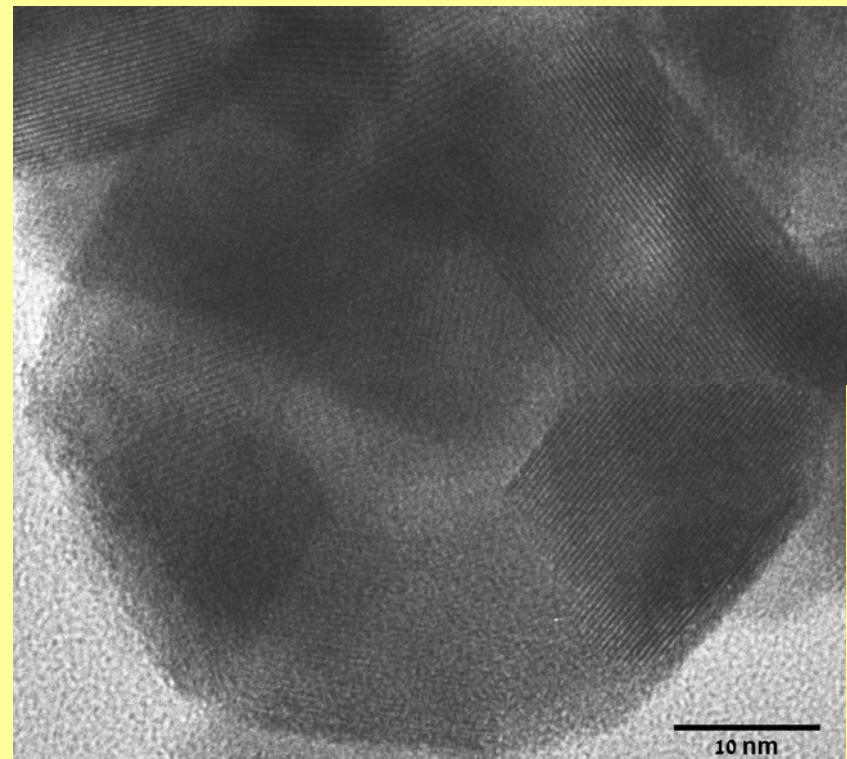
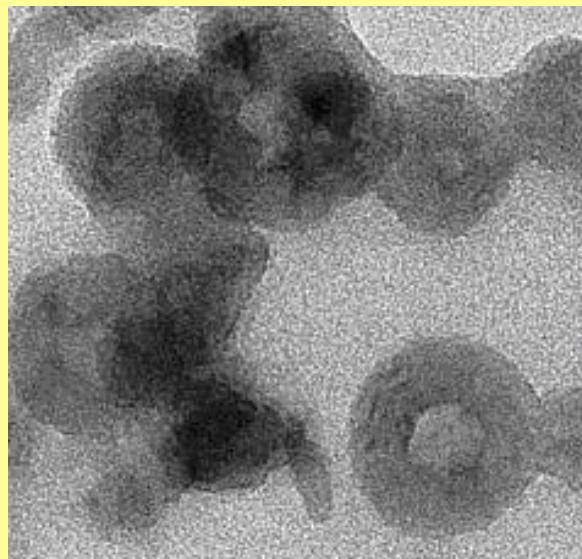
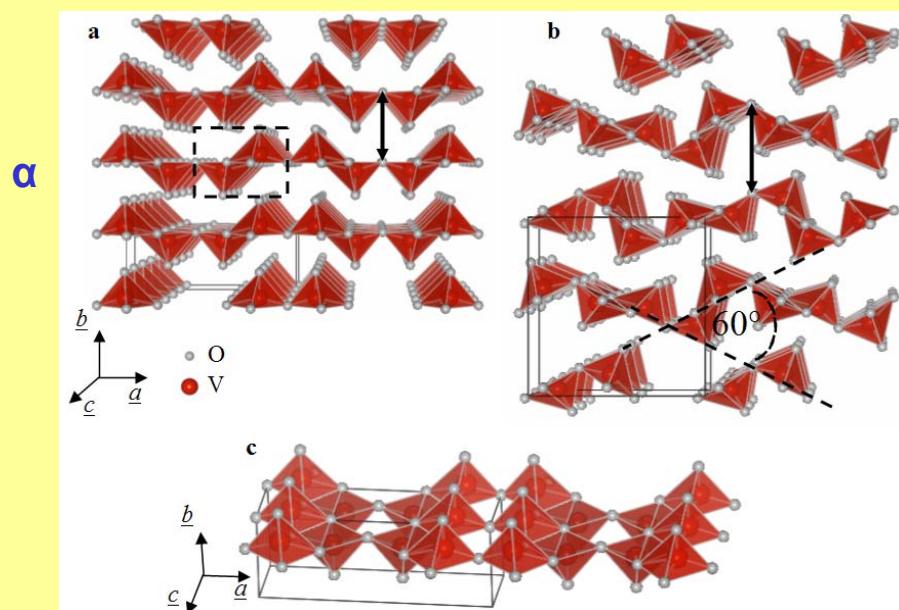
Y. Rosenfeld Hacohen, R. Popovitz-Biro, E. Grunbaum, Y. Prior, J. Sloan, J.L. Hutchison, and R. Tenne
Nature, 387, 113 (1998); *Adv. Mater.*, 14, 1075 (2002)

IF-GaS by e-beam irradiation/solar ablation



O. Sima, J. Gordon et al.

V_2O_5 IF-like nanoparticles produced by pulsed laser ablation



R. Levi, M. Bar-Sadan, A. Albu-Yaron, R. Popovitz-Biro, L. Houben, A. Enyashin, G. Seifert and R. Tenne
J. Am. Chem. Soc., 132, 11214 (2010).



Tenne (extended WIS group)