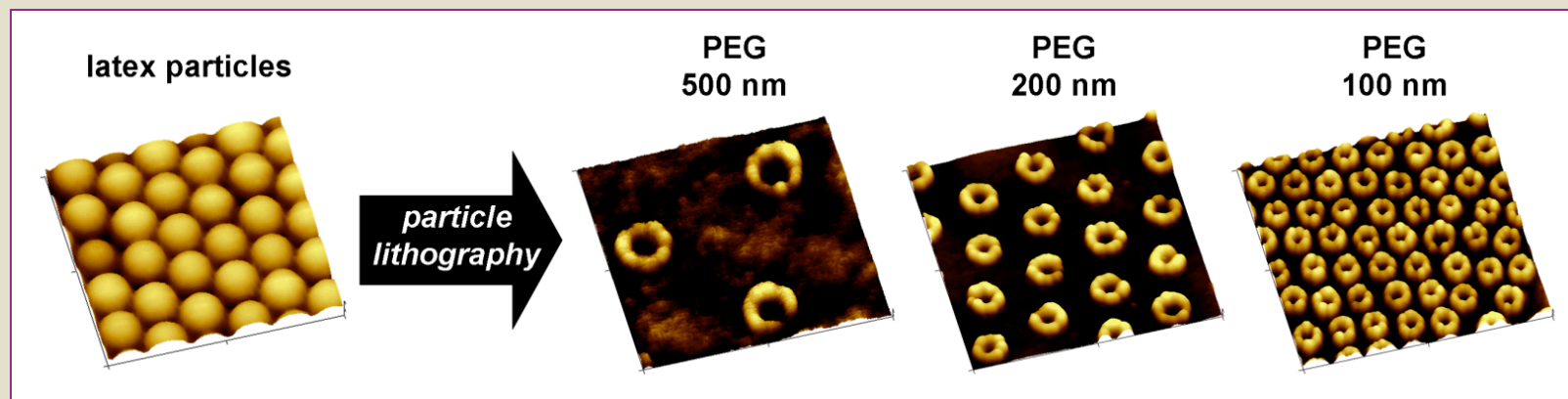


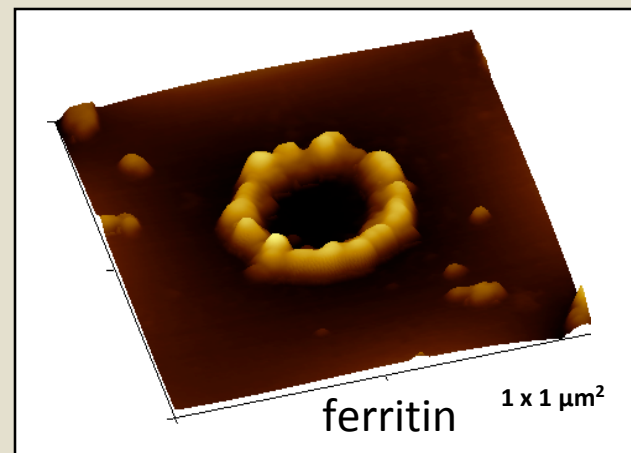
Patchy Particles and Surfaces of Engineered Heterogeneity: From Synthesis to Dynamic Function

High throughput nanoscale patterning using particle lithography – characterizations with atomic force microscopy

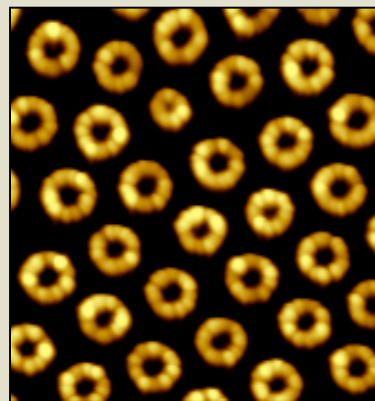


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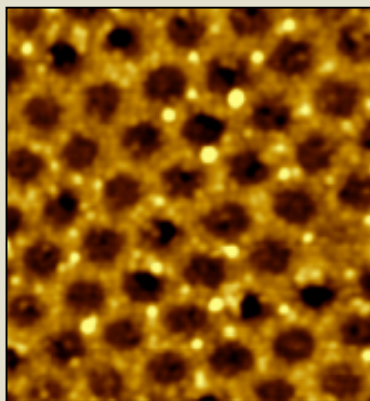
238th ACS National Meeting
Washington DC
August 19, 2009



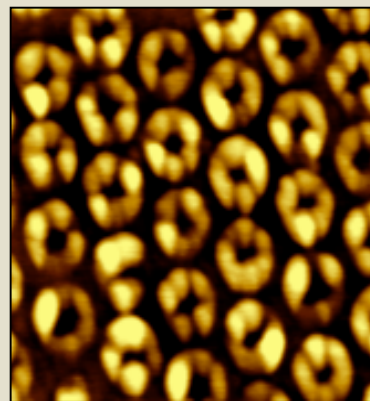
Defining Spatial Selectivity Using Nanopatterns of Organosilane SAMs



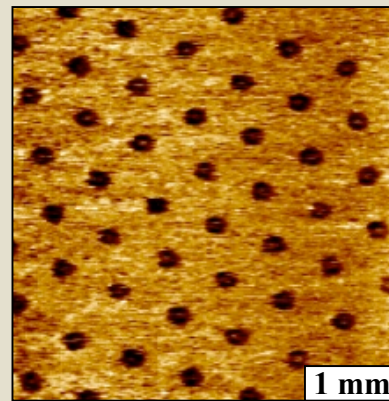
PEG



MPTMS

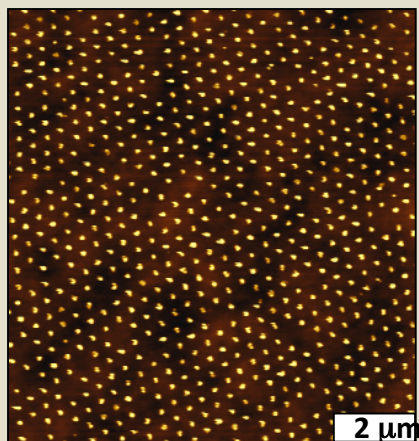


APTMS

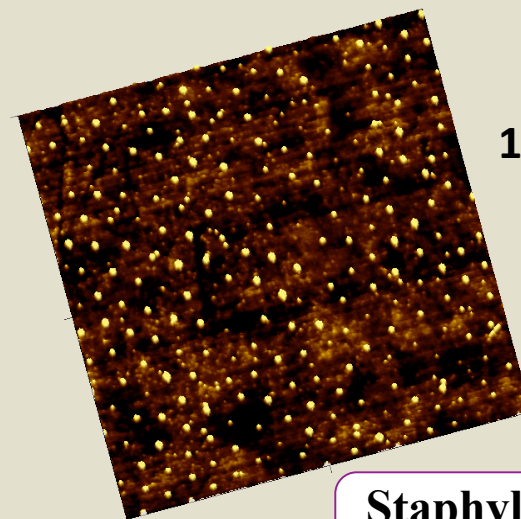
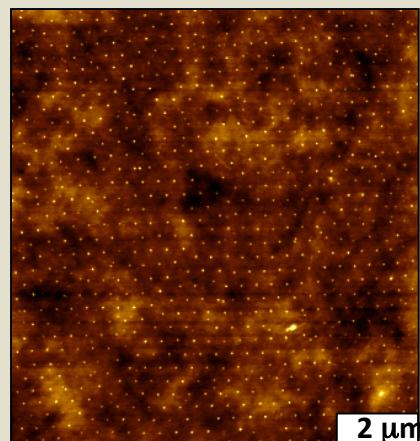


OTS

Au nanoparticles



MPCs

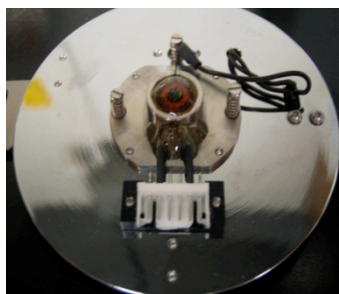


Staphylococcal
protein A

Li, J.-R., Garno, J. C., *Nano Letters*, **2008**, 8, 1916.

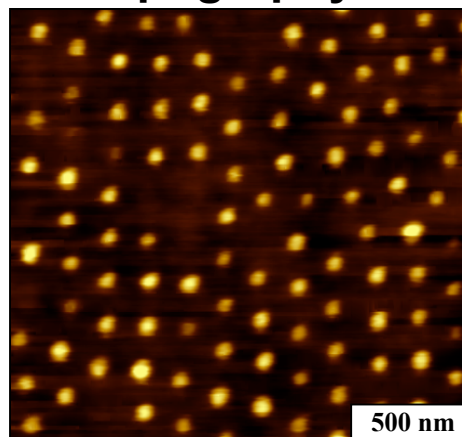
Li, J.-R.; Lusker, K. L.; Yu, J. J.; Garno, J. C., *ACS Nano*, **2009**, 3, 2023.

Investigation of the magnetic properties of ferritin by contact mode AFM imaging combined with magnetic sample modulation

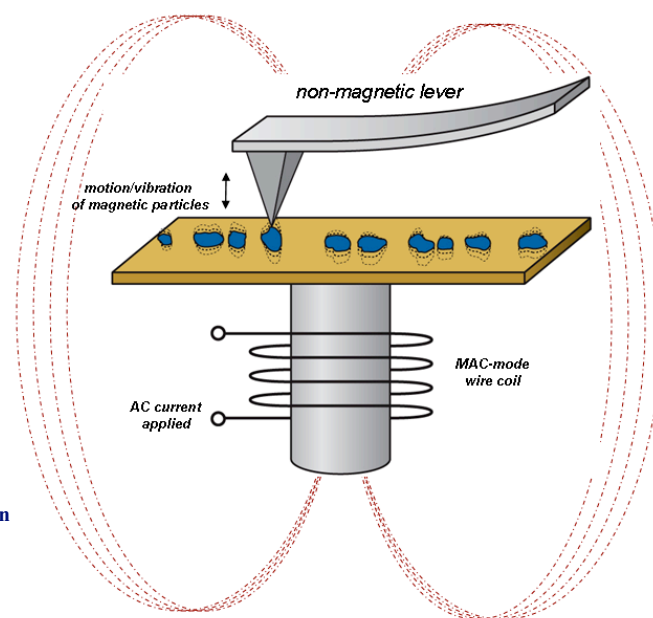
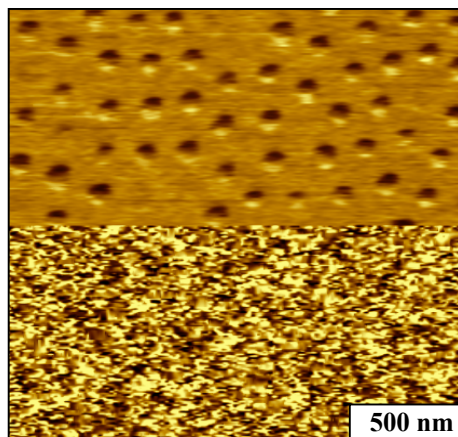


The sample plate contains a wire solenoid to drive the vibration of magnetic samples.

Topography



MSM image



AC field on

field off

Hybrid imaging mode using **contact** AFM with an AC **Mac-mode** field and a nonmagnetic tip to achieve selective **modulation** of magnetic nanomaterials.

Daniels, S. L.; Ngunjiri, J. N.; Garno, J. C.* *Analytical and Bioanalytical Chem*, **2009**, 394, 215.

Li, J.-R.; Lewandowski, B. R.; Garno, J. C., *Anal. Chem*, **2009**, 81, 4792.

Serem, W. K.; Varotto, A.; Castro, G.; Drain, C. M.; Garno, J. C. *NOBCCHE Proc.*, Philadelphia, PA, **2008**.