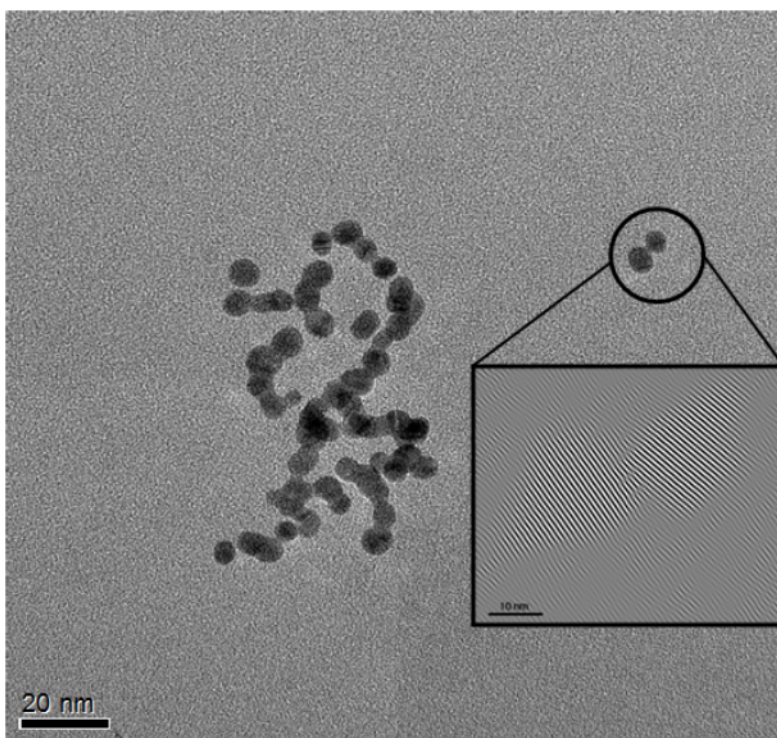


## Small molecule induced one dimensional assembly of Au nanoparticles

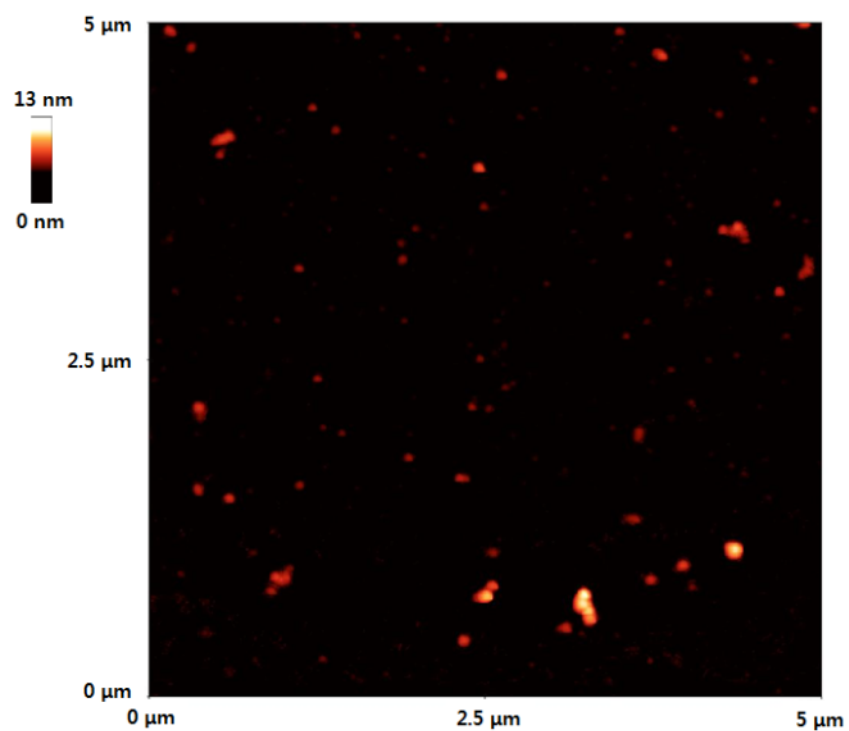
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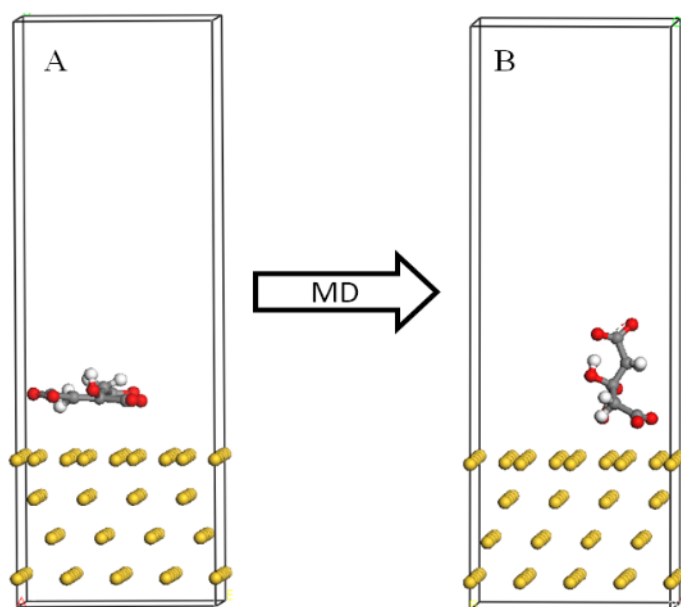
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TEL: +82) 55-350-5298, FAX: +82) 55-350-5299



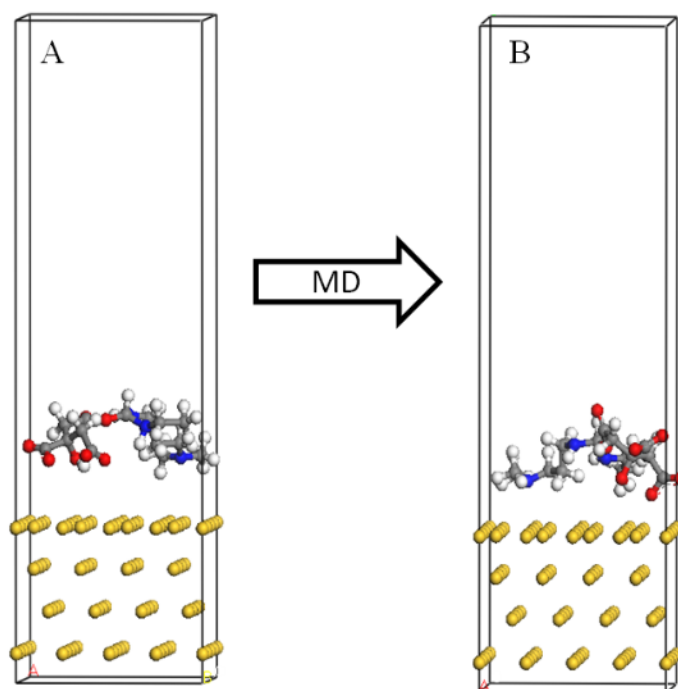
Supplementary Figure (SF) 1: HR-TEM image of Au chains with 0.005 M of EDC and lattice image of Au chains (in a box)



Supplementary Figure (SF) 2: AFM image of Au chains with 0.002M of EDC on the PDDA treated Si wafer (scan rate: 0.3 Hz and scan lines: 512)



Supplementary Figure (SF) 3: snapshots of the Au/Citrate model before and after MD simulation: A. before MD simulation; B. after MD simulation



Supplementary Figure (SF) 4: snapshots of the Au/Citrate-EDC-Citrate model before and after MD simulation: A. before MD simulation; B. after MD simulation

Supplementary Table (ST) 1 non-bonding energies between Au and organism

Surface	Organism	$E_{\text{non-bond}}$ ( $\text{kcal}\cdot\text{mol}^{-1}$ )	$E_{\text{vdW}}$ ( $\text{kcal}\cdot\text{mol}^{-1}$ )		$E_{\text{coulomb}}$ ( $\text{kcal}\cdot\text{mol}^{-1}$ )
			Repulsive	Dispersive	
Au (111)	Citrate	$2.214\times 10^5$	$2.717\times 10^5$	$-5049\times 10^4$	-220.121
Au (111)	Citrate-EDC	$2.210\times 10^5$	$2.719\times 10^5$	$-5.069\times 10^5$	-187.793
Au (111)	Citrate-EDC-Citrate	$4.416\times 10^5$	$5.438\times 10^5$	$-1.020\times 10^5$	-178.360