

Cite this: DOI: 10.1039/xxxxxxxxxx

A simple strategy to improve the interfacial activity of true Janus gold nanoparticles: a shorter hydrophilic capping ligand

Miguel Angel Fernandez-Rodriguez,^a Limei Chen,^b Christopher P. Deming,^b Miguel Angel Rodriguez-Valverde,^a Shaowei Chen,^b Miguel Angel Cabrerizo-Vilchez,^a and Roque Hidalgo-Alvarez*^a

Received Date

Accepted Date

DOI: 10.1039/xxxxxxxxxx

www.rsc.org/journalname

Supporting Information:

^a Biocolloid and Fluid Physics Group, Applied Physics Department, Faculty of Sciences, University of Granada, Granada, Spain; E-mail: rhidalgo@ugr.es

^b Department of Chemistry and Biochemistry, University of California, 1156 High Street, Santa Cruz, CA 95064, USA.

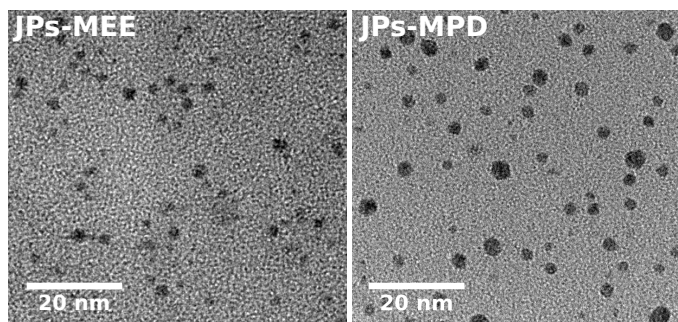


Fig. S1 High Resolution TEM microographies of the JPs-MEE (left) and JPs-MPD (right). The sizes are $3.5 \pm 0.9 \text{ nm}$ and $3.7 \pm 1.9 \text{ nm}$ for the JPs-MEE and JPs-MPD, respectively.

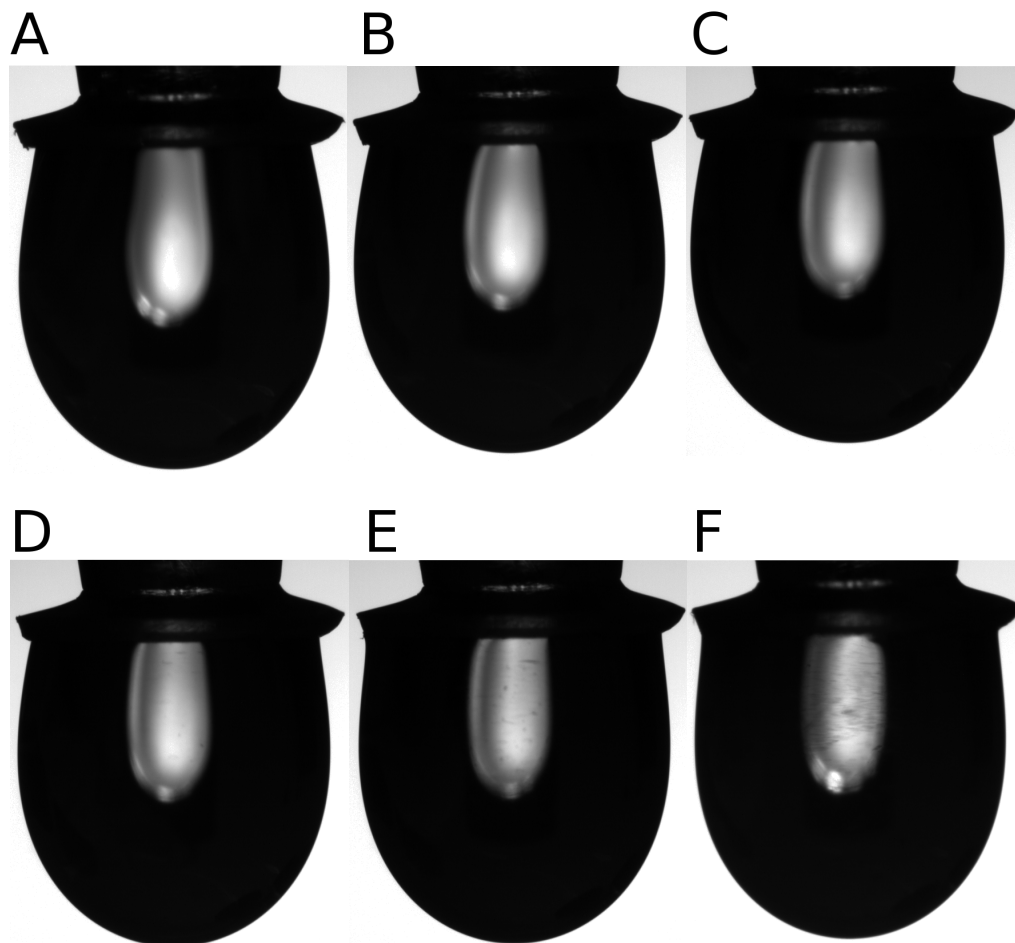


Fig. S2 $45 \mu\text{l}$ water pendant drops in air with different number of JPs-MPD deposited at the interface, after THF evaporation: (A) Bare water/air interface, (B) $1.6 \cdot 10^{12}$ JPs-MPD, (C) $3.2 \cdot 10^{12}$ JPs-MPD, (D) $4.8 \cdot 10^{12}$ JPs-MPD, (E) $8.0 \cdot 10^{12}$ JPs-MPD and (F) $16.0 \cdot 10^{12}$ JPs-MPD, this last pendant drop fell off due to the low surface tension and it wasn't possible to perform the rheology experiments. It is noticeable the increasing opacity and shape change of the pendant drop with increasing number of JPs-MPD deposited at the interface.

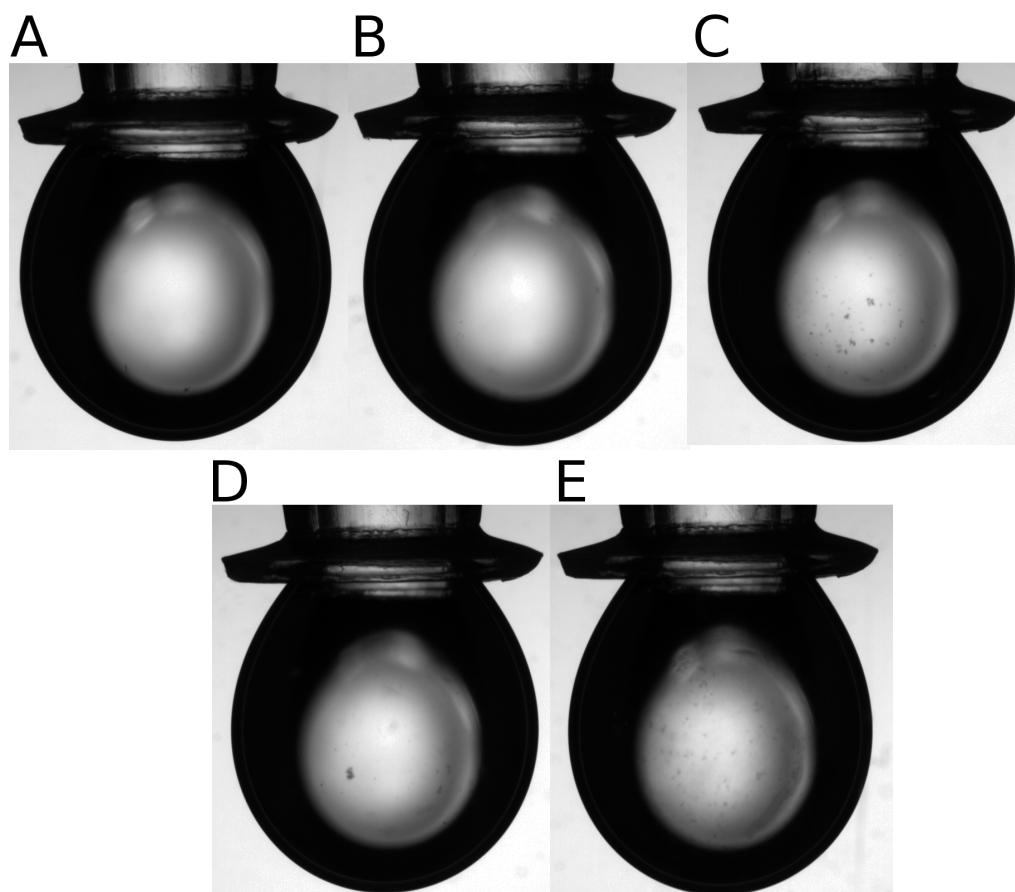


Fig. S3 $45\ \mu\text{l}$ water pendant drops immersed in decane with different number of JPs-MPD deposited at the interface, corresponding to the drops in Fig. S3: **(A)** Bare water/decane interface, **(B)** $1.6 \cdot 10^{12}$ JPs-MPD, **(C)** $3.2 \cdot 10^{12}$ JPs-MPD, **(D)** $4.8 \cdot 10^{12}$ JPs-MPD and **(E)** $8.0 \cdot 10^{12}$ JPs-MPD. It is noticeable the increasing opacity and shape change of the pendant drop with increasing number of JPs-MPD deposited at the interface.