Electronic Supplementary Material (ESI) for RSC Advances.

Magneto-electrical orientation of lipid-coated graphitic micro-particles in solution

Johnny Nguyen[a], Sonia Contera[b], Isabel Llorente García*[a]

[a] Department of Physics and Astronomy, University College London, Gower St., London WC1E 6BT, UK

[b] Clarendon Laboratory, University of Oxford, OX1 3PU, UK

* *Corresponding author: i.llorente-garcia@ucl.ac.uk*

Electronic Supplementary Information

See videos of HOPG micro-flakes in solution in the presence of a vertical orienting magnetic field, rotating to align with a horizontal AC electric field.

Supplementary Video 1: ‘20MHz_4p6V.avi’

The video shows the rotation of a magnetically aligned particle (the magnetic field points towards the viewer) induced by an AC electric field (which points in the horizontal direction). The frequency of the field is set to 20 MHz and the voltage applied between the wires is 4.6 V_{pp} (peak-to-peak).

Supplementary Video 2: ‘40MHz_4p6V.avi’

Same as above but with the electric field frequency set to 40 MHz.

Naming convention of the video files:

‘electric field frequency’_’voltage between wires’.avi

For example, ‘20MHz_4p6V.avi’ shows the rotation of a particle in an AC electric field with a frequency of 20 MHz and an applied voltage of 4.6 V_{pp}.