

Supporting Information for the article:

Breaking the degeneracy of nematic liquid crystals by means of actuated anisometric paramagnetic colloids

S. Hernàndez-Navarro, P. Tierno, J. Ignés-Mullol, F. Sagués,

Departament de Química Física, Universitat de Barcelona, Martí i Franques 1, 08028, Spain; Institut de Nanociència i Nanotecnologia IN²UB, Barcelona, Spain

Email: jignes@ub.edu.

Three movie files are included as supplementary information:

Video 1 (.MPEG1): Relaxation of the target pattern when the magnetic field is turned off. The applied voltage across the cell was 9 V with a frequency of 1 kHz.

Video 2 (.MPEG1): generation of a helix pattern with a CW orientation. The voltage applied across the cell periodically changes between 2.5 and 6 V with a period of 1 second. The voltage variations correspond to reversible changes from the target pattern (6 V) to the CW helix (2.5 V) and back. The CW orientation of the helix is due to the CW rotation of the applied magnetic field which generates the target.

Video 3 (.MPEG1): generation of a helix pattern with a CCW orientation. The voltage applied across the cell periodically changes between 2.4 and 6 V with a period of 3.5 second. The voltage variations correspond to reversible changes from the target pattern (6 V) to the CCW helix (2.4 V) and back. The CCW orientation of the helix is due to the CCW rotation of the applied magnetic field which generates the target.