

Supplementary material for the manuscript “Self-assembly of colloidal magnetic particles: Energy landscapes and structural transitions”

J. Hernández-Rojas^{a,*}, D. Chakrabarti^{b,†} and D. J. Wales^{c‡}

^a *Departamento de Física and IUdEA,
Universidad de La Laguna, 38205, La Laguna, Tenerife, Spain*

^b *School of Chemistry, University of Birmingham,
Edgbaston, Birmingham B15 2TT, United Kingdom and*

^c *University Chemical Laboratories, Lensfield Road,
Cambridge CB2 1EW, United Kingdom*

*Electronic address: jhrojas@ull.es

†Electronic address: d.chakrabarti@bham.ac.uk

‡Electronic address: dw34@cam.ac.uk

I. SUPPLEMENTARY MOVIE 1 LEGEND

Movie for the fastest pathway connecting the chain structure with the global minimum for $N = 14$.

II. SUPPLEMENTARY MOVIE 2 LEGEND

Movie for the fastest pathway connecting the two lowest energy minima for $N = 27$.

III. SUPPLEMENTARY MOVIE 3 LEGEND

Movie for the fastest pathway between a ring and a chain structure for $N = 13$ at magnetic field $B^* = 0.7$. The magnetic field vector is perpendicular to the page.

IV. SUPPLEMENTARY MOVIE 4 LEGEND

Movie for the fastest pathway between a ring and a chain structure for $N = 13$ at magnetic field $B^* = 0.8$. The magnetic field vector is perpendicular to the page.

V. SUPPLEMENTARY MOVIE 5 LEGEND

Movie for the fastest pathway between a ring and a chain structure for $N = 13$ at magnetic field $B^* = 0.9$. The magnetic field vector is perpendicular to the page.

VI. SUPPLEMENTARY MOVIE 6 LEGEND

Movie for the fastest pathway between a ring and a chain structure for $N = 13$ at magnetic field $B^* = 1.5$. The magnetic field vector is perpendicular to the page.

VII. SUPPLEMENTARY DATA

Energy and coordinates of the global minima of spherical magnets up to $N = 50$.