

Description of Additional Supplementary Files

- *Supplementary Movie 1:*
- Directed motion of triangular patched spherical particles along helical trajectories of two distinct handedness and two directional propagation. The motion was ceased upon turning off the applied electric field.
- *Supplementary Movie 2:*
- Dynamic change in handedness of a particle in external electric field.
- *Supplementary Movie 3:*
- Bright field and fluorescence microscope video of a particle propelled along cylindrical helical trajectory.
- *Supplementary Movie 4:*
- Fluorescence microscope video showing the motion of particles with complex patch symmetry.
- *Supplementary Movie 5:*
- Bright field microscope video showing the dynamic transport of particles through a crosslinked matrix of irregular shaped pores.