

Video captions

Movie S1 shows a real-time movie of a self-propelled rod (length 2 microns) in a suspension of TPM spheres with typical diameter 6 microns. The spheres briefly capture the moving rod. The movie was acquired at 9.2 frames per second and lasts 15 seconds.

Movie S2 shows two real-time movies of a self-propelled rod in a suspension of smaller glass spheres with diameter 1 micron. The rod orbits around nearby spheres. The movies were acquired at 9.2 frames per second and last 13 seconds.

Movie S3 shows a real-time movie of a self-propelled rod entering a circular orbit around a TPM sphere with diameter 3 microns. The marker on the sphere hardly moves. The movie was acquired at 22 frames per second and lasts 7 seconds.