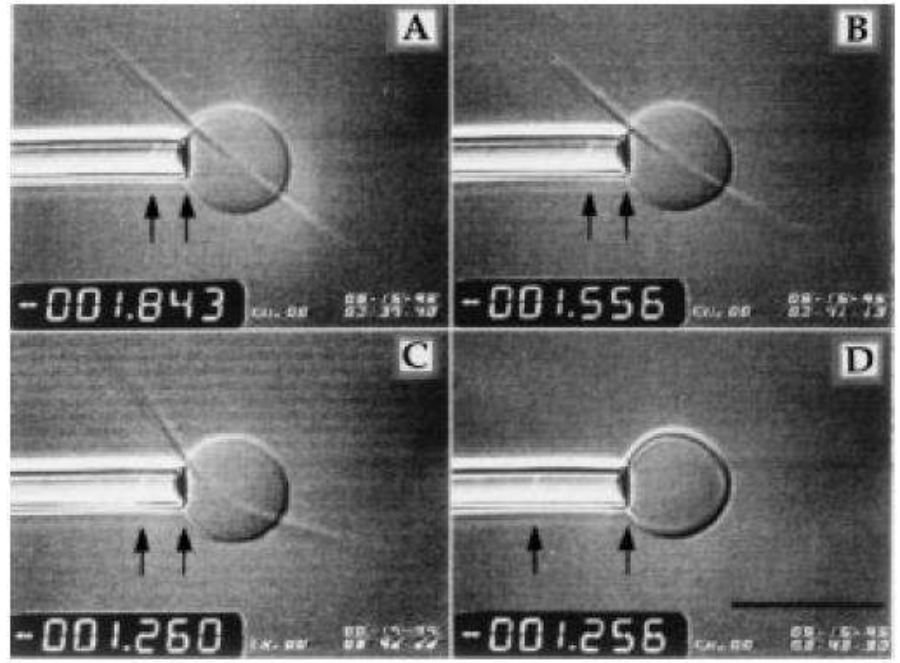
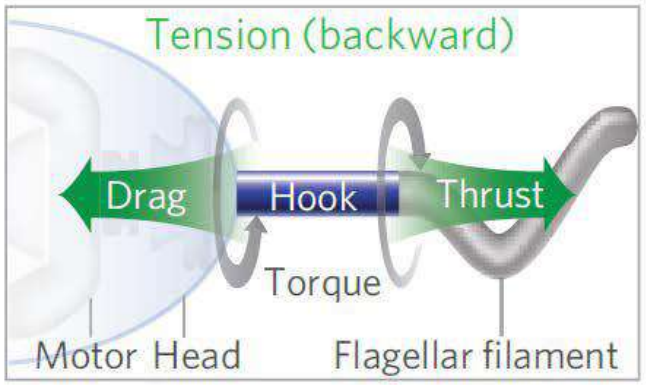
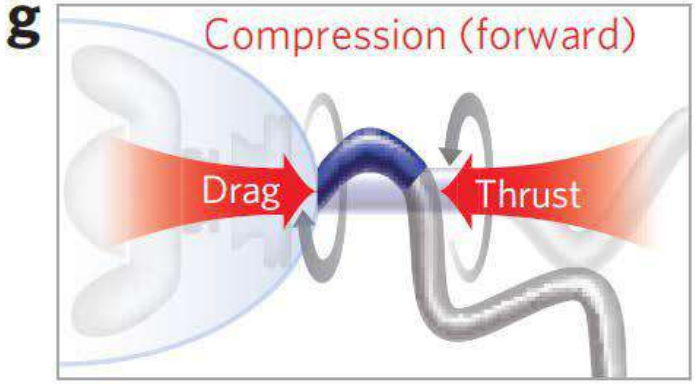
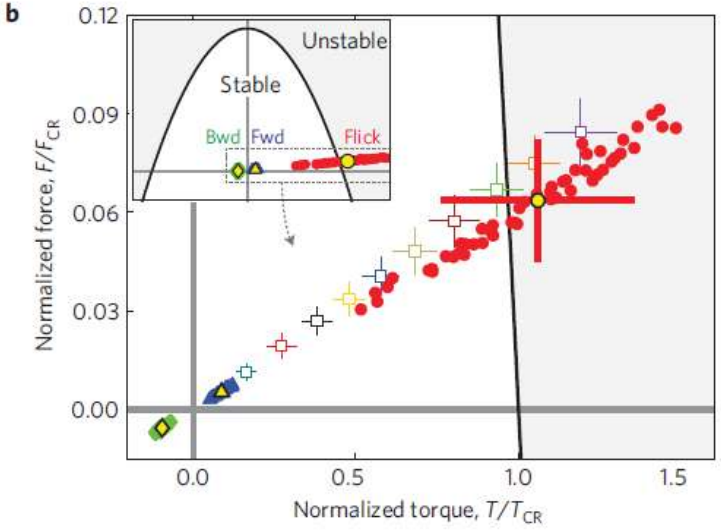
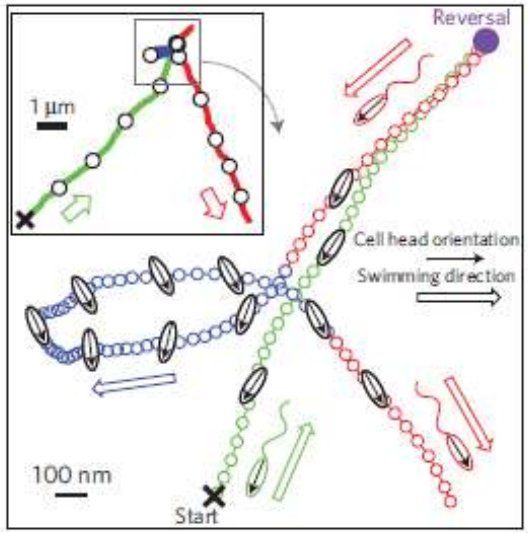


FIG. 4. Buckling and collapse of a microtubule bundle. A vesicle is distorted from within by a rigid bundle (seen as a linear object crossing the vesicle diagonally in the first three frames). Zero pressure is at -2.160 cm H_2O. The effective tubulin concentration is 37 μM and the temperature is 37 °C. Each frame is 39.1×31.3 μm. The membrane is visible inside the micropipet (arrows). At first the bundle is slightly buckled (a), and the bend increases slowly as the aspiration pressure rises (b,c). In the final image, the bundle has collapsed into a ring lining an inner diameter of the vesicle and the membrane has moved into the pipet (d).









Vibrio alginolyticus

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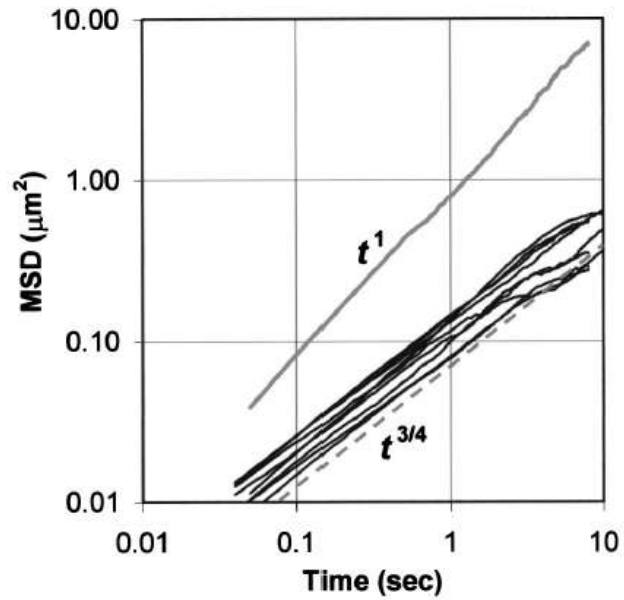

FIG. 4. Measured results of the transverse MSD [$\langle h^2(t)\rangle$] of a 0.3 μm bead attached to a point along the MT filament shown using *thin black lines* for ten different samples. The *dashed gray line* shows the expected MSD according to Eq. (5). As a reference a measured MSD for a 0.3 μm bead in a sucrose solution (33% by weight) is shown by *gray line*.

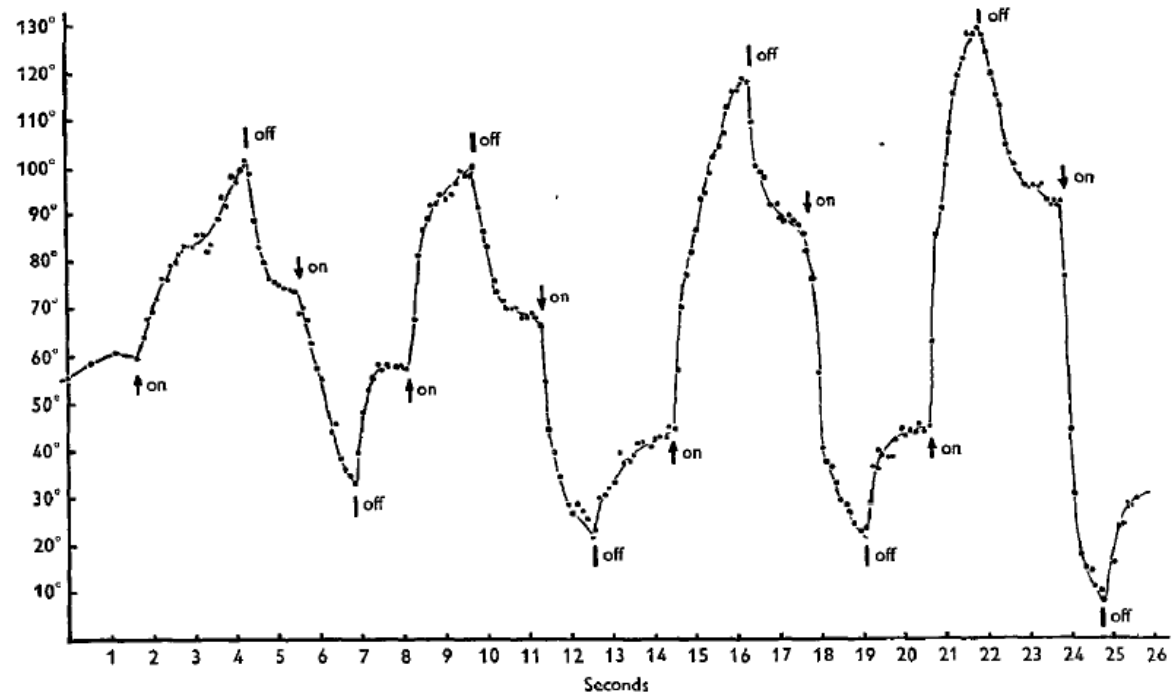

Fig. 11. Response curve of particle in cell. Room temperature. 24 oersteds. Repeated actuation.

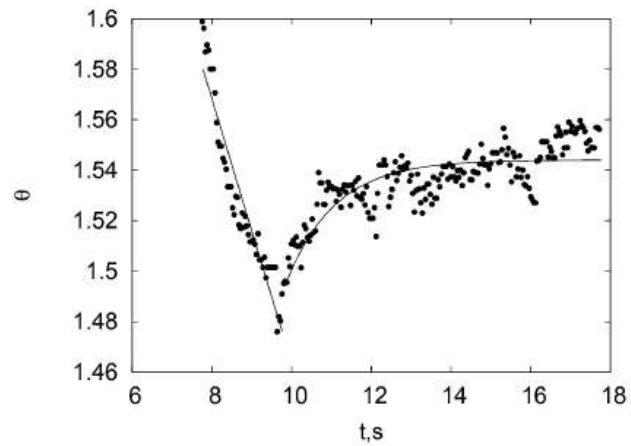

Fig. 12 Time dependence of the orientation angle of the rod when the field is on and off. Concentration of the gel 1 mg ml^{-1}, concentration of the $MgCl_2$ salt $c = 6$ mM.

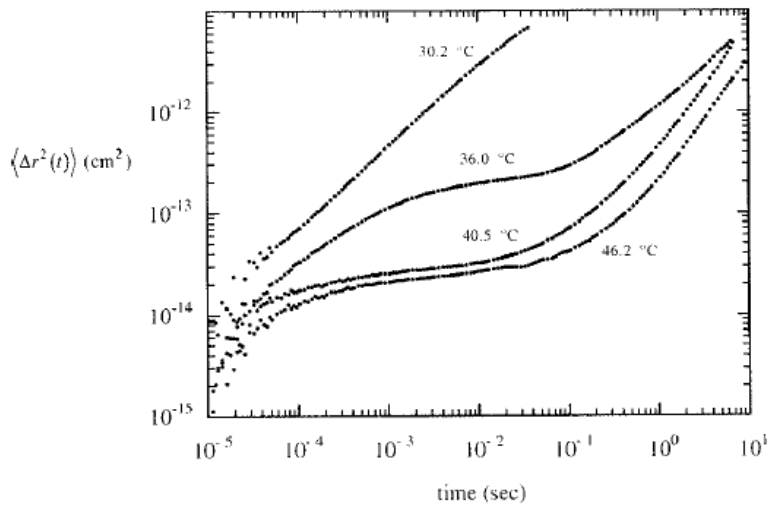

FIG. 1. Diffusion of 0.966 μm diam polystyrene latex spheres in a CTAB-KBr solution with [CTAB] = 0.1 g/cc and [KBr] = 2.5 M. The CTAB-KBr system has been shown to form wormlike micelles and exhibit single exponential stress relaxation behavior at low frequencies under certain conditions.

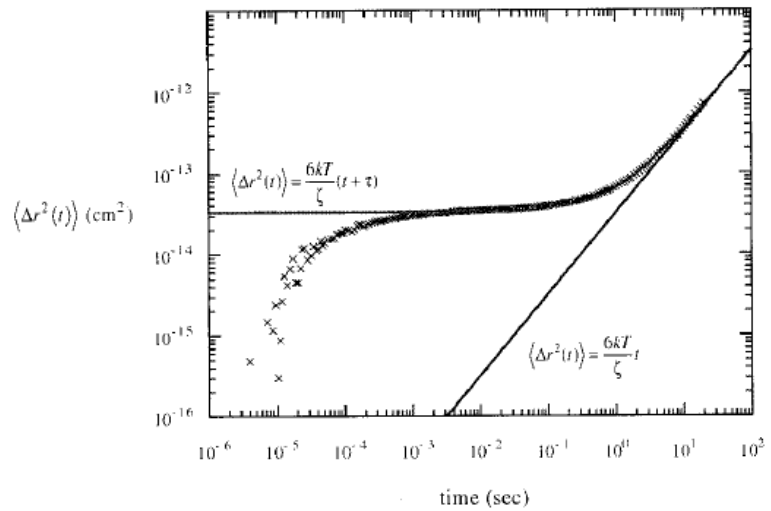

FIG. 2. Viscoelastic CTAB-KBr systems exhibit single relaxation-time Maxwell fluid behavior at long times. The mean-square displacement 0.966 μm polystyrene latex spheres dispersed in a solution with [CTAB] = 0.1 g/cc, [KBr] = 2.0 M and T = 36.0 °C is shown. The fitted curve corresponds to the predicted late time probe mean-square displacement in a single relaxation-time Maxwell fluid with a zero shear viscosity of 8800 P and a terminal relaxation time τ of 1.05 s both of which correspond very well with mechanical measurements on a similar system.