

Supplementary Information

Exploring the Influence of Natural Cosolvents on the Free Energy and Conformational Landscape of Filamentous Actin and Microtubules

Paul Hendrik Schummel, Michel W. Jaworek, Christopher Rosin, Jessica Högg and Roland Winter

Additional Figures

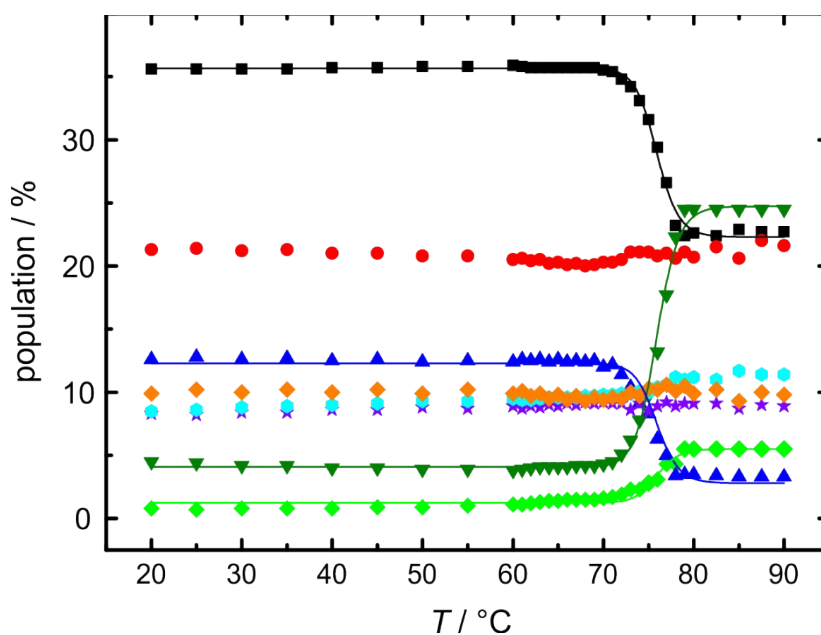


Figure S1: Representative temperature-dependent changes of secondary structure elements of F-actin in pure buffer solution at ambient pressure (■ α -helix (1655 cm^{-1}), ▲ intramolecular β -sheets (1627 cm^{-1}), ● intramolecular β -sheets (1636 cm^{-1}) ▼ intermolecular β -sheets (1616 cm^{-1}), ◆ intermolecular β -sheets (1684 cm^{-1}), ◆ unordered structures (1642 cm^{-1}), ★ loops (1676 cm^{-1}), ○ loops (1666 cm^{-1})).

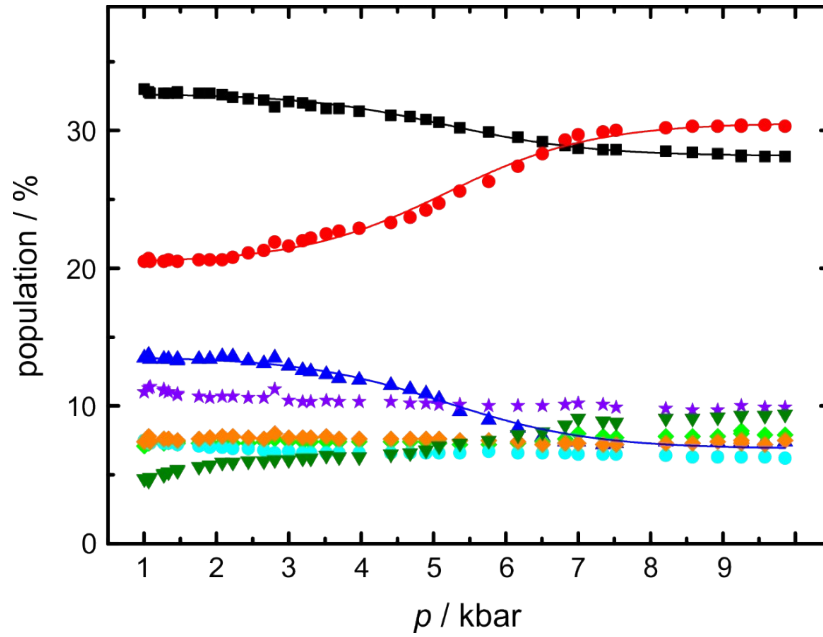


Figure S2: Representative pressure-dependent changes in secondary structure elements of F-actin in buffer solution, containing 2 M TMAO at 25 °C (■ α -helix (1655 cm^{-1}), ▲ intramolecular β -sheets (1627 cm^{-1}), ● intramolecular β -sheets (1636 cm^{-1}) ▼ intermolecular β -sheets (1616 cm^{-1}), ◆ intermolecular β -sheets (1684 cm^{-1}), ◇ unordered structures (1642 cm^{-1}), ★ loops (1676 cm^{-1}), ◐ loops (1666 cm^{-1})).

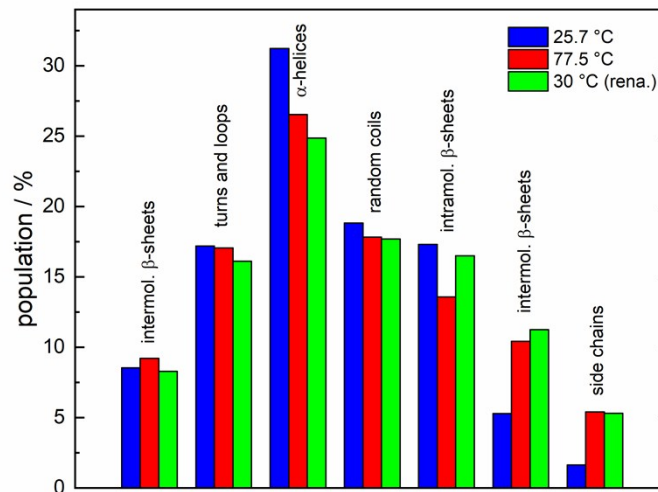


Figure S3: Temperature-dependent changes in secondary structure elements of microtubules in neat buffer solution at 25.7 °C, 77.5 °C and after cooling down again to 30 °C, revealing partial irreversibility of the thermal unfolding process.

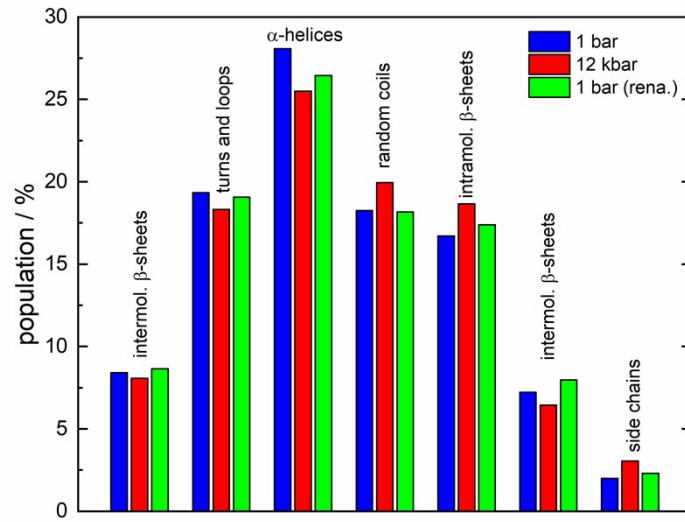


Figure S4: Pressure-dependent changes in secondary structure elements of microtubules in neat buffer solution at 1 bar, 12 kbar and after pressure release at 1 bar, revealing partial irreversibility of the unfolding process.