Title:	Investing of nucleoid dynamics using fusion of different fluorescent proteins with a nucleoid associated protein, HU
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Abstract:	The dynamics and physical state of bacterial nuclei affects the kinetics of major biochemical processes such as DNA replication, gene expression. and chromosome segregation. Therefore, understanding the dynamics of nucleoid is of great importance to better understand E.coli which in itself is at least a century old model organism. Earlier, our group observed that E.coli nucleoids labeled with RFP-HU-A construct showed multiple bead-like droplet entities that had different shapes within different cells. To confirm the dynamic nature, we are fusing mCherry with HU-A, because the previous microscopy experiments were done with RFP-HU- A, which is not very photostable (it bleaches rapidly). Since, we aim to confirm the dynamic nature with FRAP, unintended rapid auto bleaching possesses a problem. Further, to explore role of HU-B we are trying to fuse HU-B with different fluorescent proteins namely, PAmCherry, EGFP, mEOS4b. We used various experimental techniques like FRAP, Single Particle tracking on the fused proteins to shed light on the role HU in Liquid-Liquid phase separation of bacterial nuclei.
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