

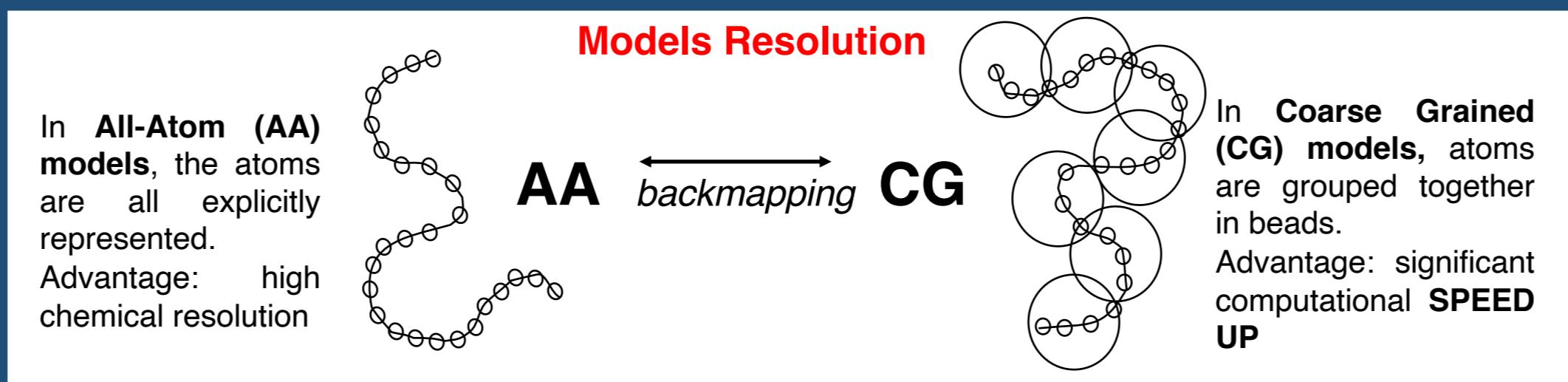
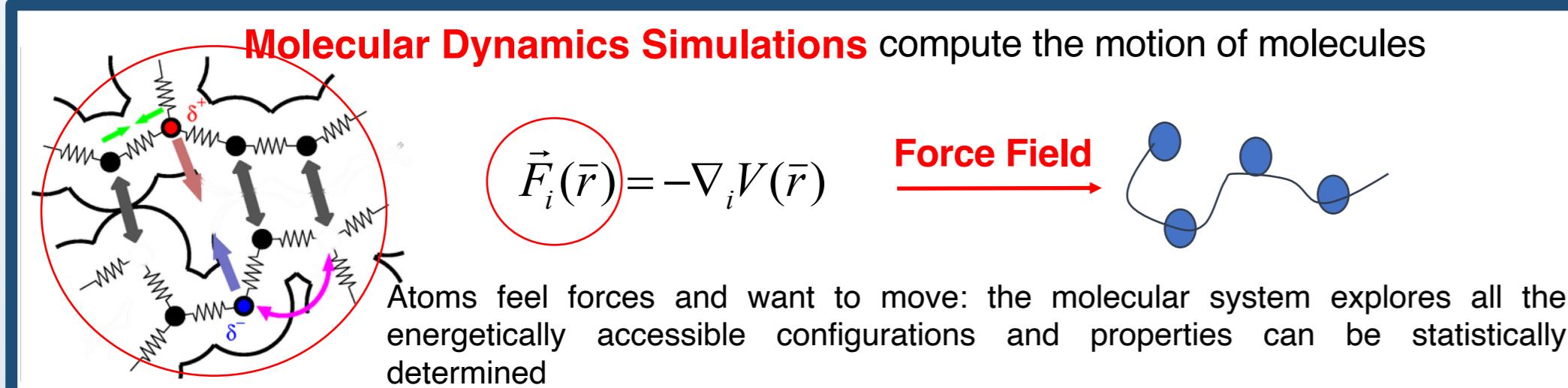
Optimizing Delivery Systems via Multiscale Simulations

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Mechanical Properties of Nanoconstructs: PLGA-PEG Mixture

Pannuzzo, M., Horta, B. A., La Rosa, C., & Decuzzi, P. (2020). Predicting the Miscibility and Rigidity of Poly (lactic-co-glycolic acid)/Polyethylene Glycol Blends via Molecular Dynamics Simulations. *Macromolecules*.

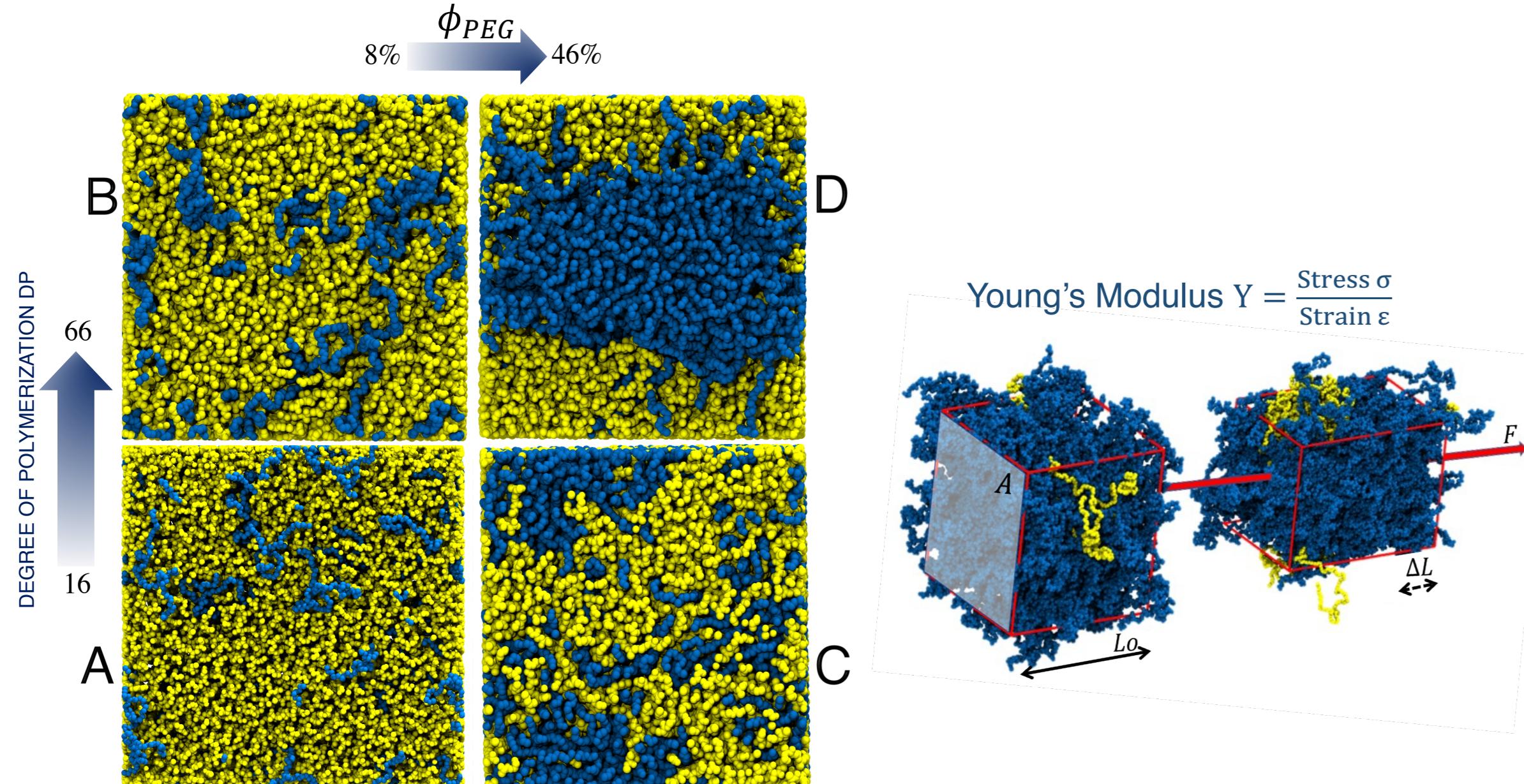


Figure 1_Snapshots of the system at 1 μ s for the four different systems: system A (8:92 PEG16:PLGA64); system B (8:92 PEG64:PLGA64); system C (46:54 PEG16:PLGA64); system D (46:54 PEG64:PLGA64). PEG and PLGA polymers in blue and in yellow, respectively.

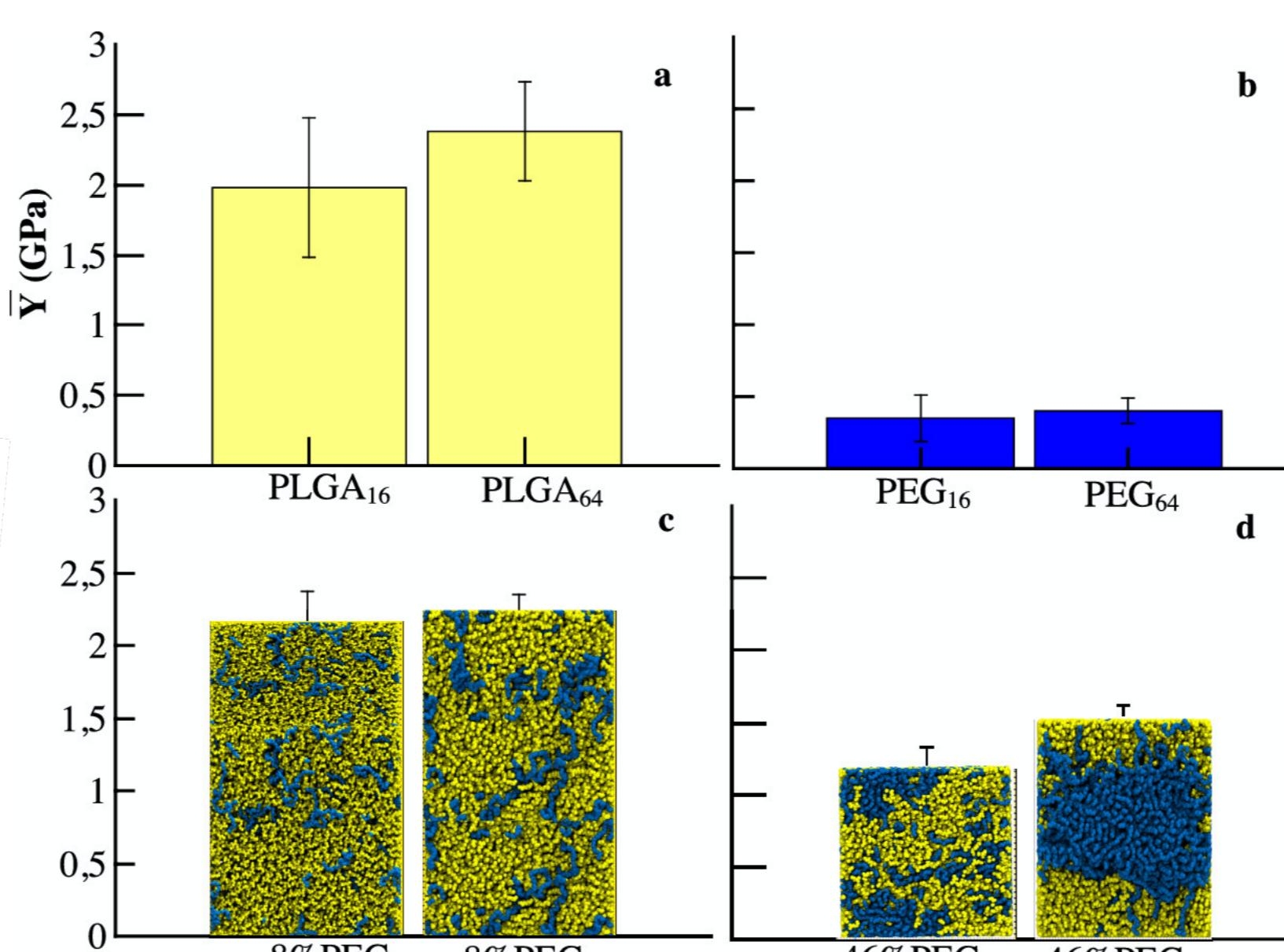


Figure 2_Young's Modulus of pure components and binary mixtures. (a) Young's Modulus of pure PLGA for two DP. (b) Young's Modulus of PEG for two DP. (c) Young's Modulus of binary mixtures of PLGA64 and 8% PEG16 and 8% PEG64. (d) Young's Modulus of binary mixtures of PLGA64 and 46% PEG16 and 46% PEG64.

Thermodynamics Quantities to Explain Drug Release Profiles

Di Francesco, M., Primavera, R., Summa, M., Pannuzzo, M., Di Francesco, V., Di Mascolo, D., ... & Decuzzi, P. (2020). Engineering shape-defined PLGA microPlates for the sustained release of anti-inflammatory molecules. *Journal of Controlled Release*, 319, 201-212

