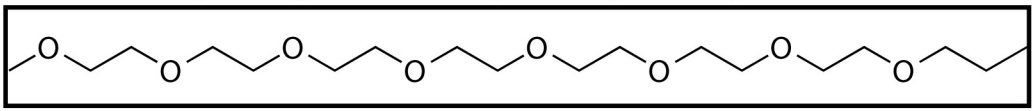
Polyethylene Glycol (PEG) Linkers



maximum length (*all-trans*) = **n × 0.35 nm**

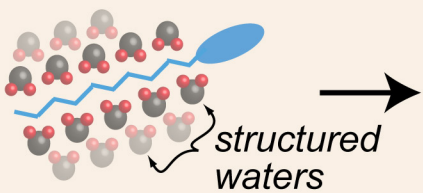
1. PEG is longer than most other polymers due to solvation

poorly solvated polymer (alkyl chain)

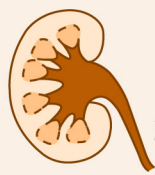
well solvated polymer (PEG)

PEG *Solution* Length **= n × (0.35)$^{0.64}$ nm**

2. PEG-attachement Increases Serum Half-life of Drugs

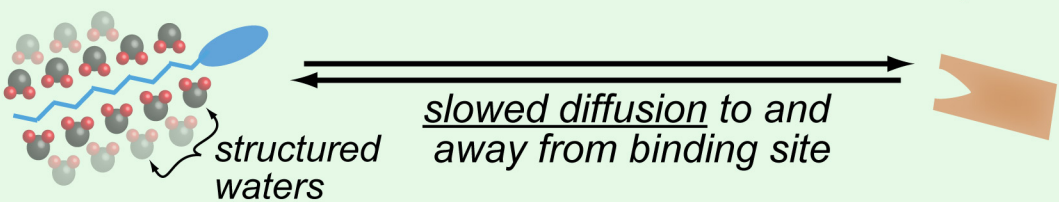


(1) *block metabolic enzymes*



(2) *reduce filtration*

3. PEG-attachement Reduces On/Off Rates via "Drag"



4. PEG-attachement Reduces K_d/k_{on} by Steric Blocking