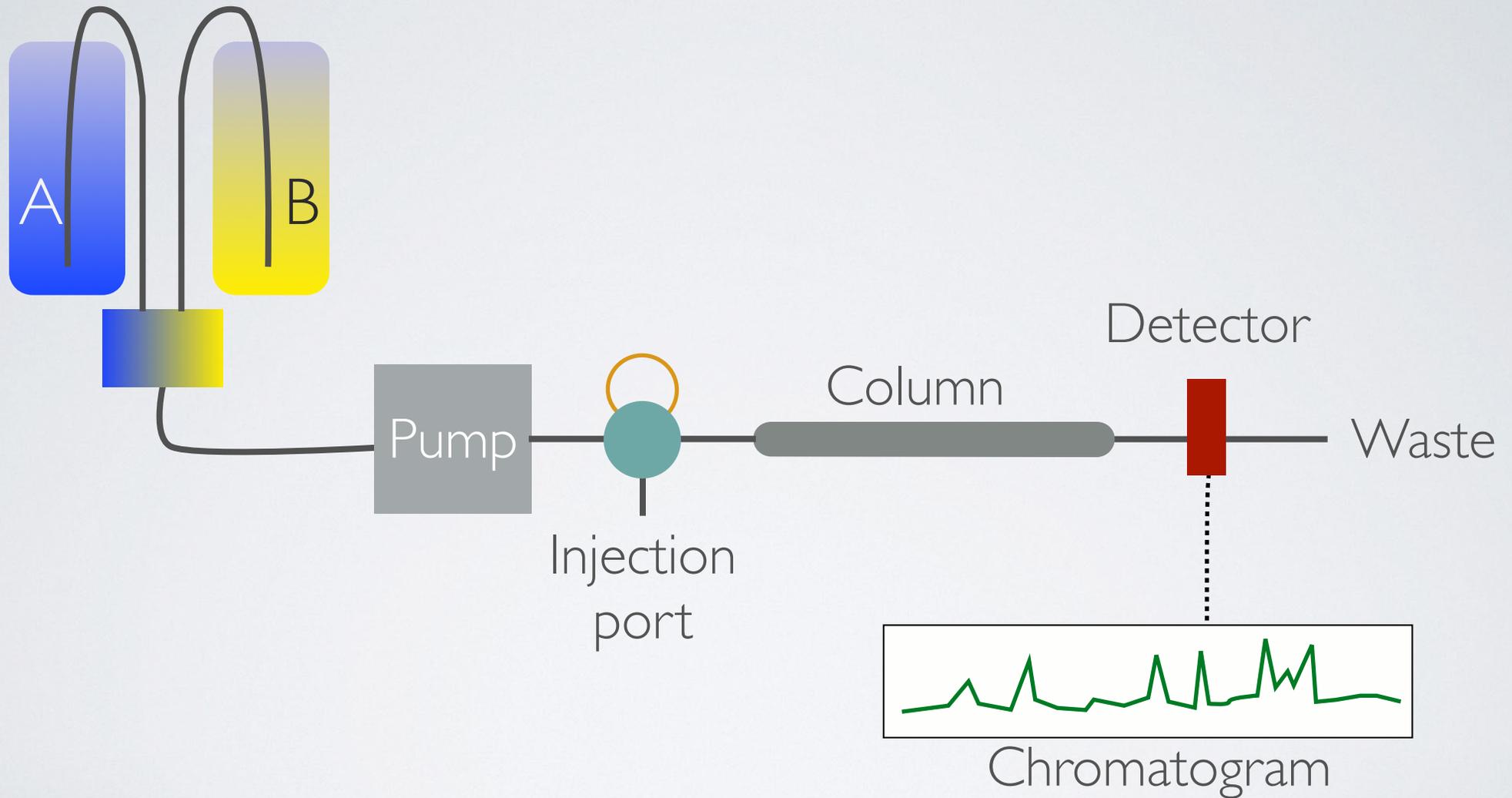


LIQUID CHROMATOGRAPHY

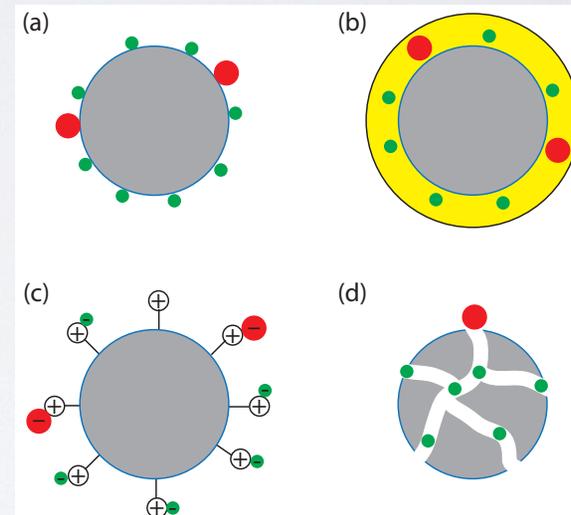
SDSU CHEM 251

LIQUID CHROMATOGRAPHY INSTRUMENTATION



LC SEPARATIONS

- LC columns are packed with micron sized (1-10 μm diameter) **particles**, typically **coated with the stationary phase**.
- Stationary phase is selected to be slightly favored by the analyte, compared to the mobile phase.
- **Differences in analyte affinity** for the stationary phase results in the separation of analytes.



LC SEPARATION MODES

| | Stationary Phase | Mobile Phase | Separates |
|----------------|---------------------|--------------------|--------------------------------------|
| Ion Exchange | Anionic or Cationic | Weak salt solution | Anions or Cations |
| Size Exclusion | Porous particles | Anything | Large molecules (proteins, polymers) |
| Normal Phase | Polar | Non-polar | Polar Molecules |
| Reversed Phase | Non-polar | Polar | Non-polar Molecules |