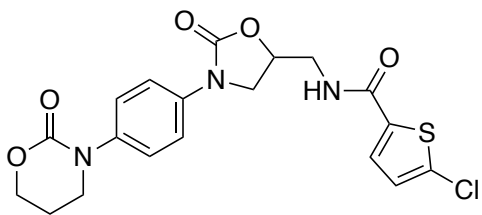


Benzene & Aromaticity

Many important molecules contain one or more aromatic functional groups.

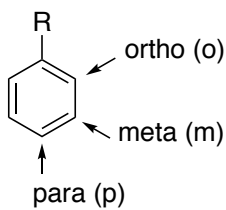


Rivaroxaban (Xarelto)

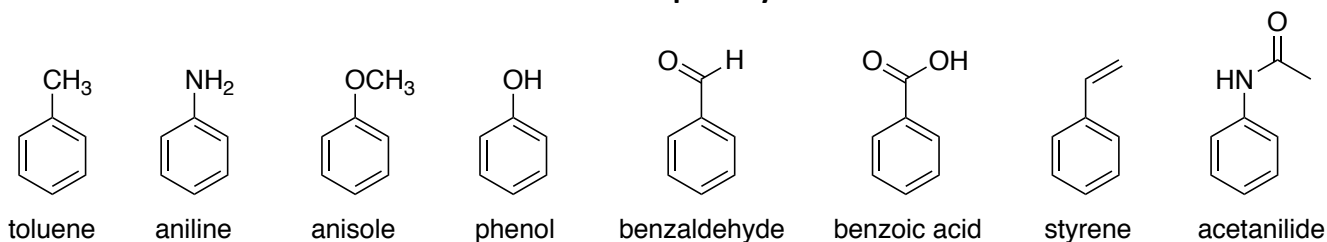
A common blood thinner

In 2018, Xarelto was #10 in US Sales

Benzene Nomenclature

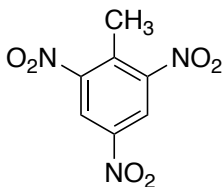
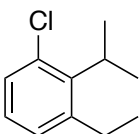
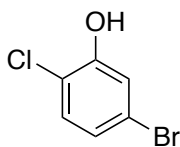
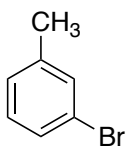


Some common mono-substituted benzene names accepted by IUPAC.



Naming di and poly substituted benzenes

1. Identify the parent: either benzene or one of the common derivatives
2. Number the substituents to give the overall lowest possible numbering
 - a. If a common derivative is the parent, the carbon containing that substituent must be C#1
 - b. If you have a numbering tie, then use alphabetical priority
3. Assemble name: list substituents alphabetically followed by the parent name
 - o,m,p terms can be used when naming di-substituted benzenes only



Criteria for aromaticity

- Cyclic
- Completely conjugated (closed loop of p-orbitals)
- Planar
- $4n + 2 \pi$ electrons

Aromaticity Flow Chart

