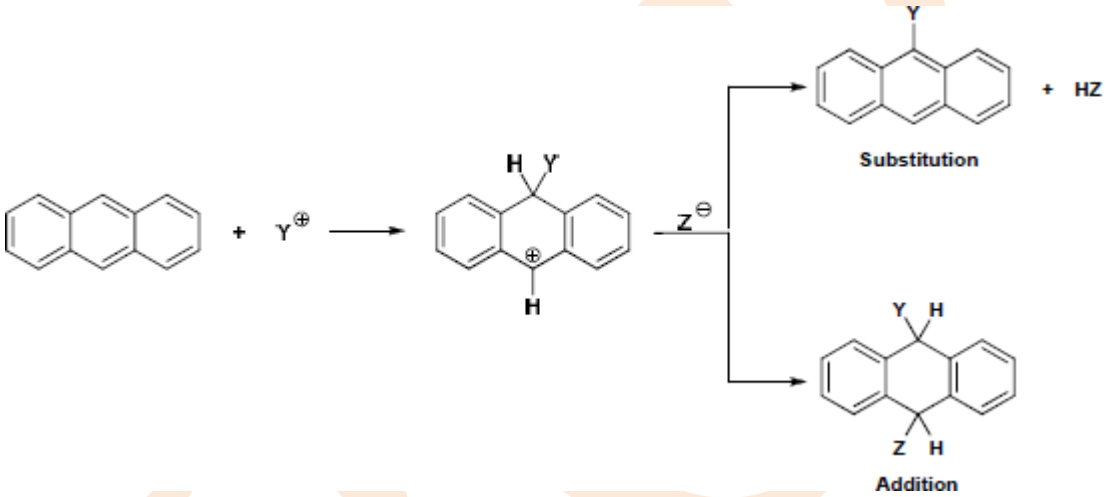
PHARMACEUTICAL ORGANIC CHEMISTRY-II- BP301T

UNIT: 4 Polynuclear hydrocarbons

CLASS: 8

TOPIC: Anthracene

- **Reactions of anthracene (**Electrophilic addition versus electrophilic substitution**)**



- The reactivity of the 9- and 10-positions toward electrophilic attack, whether reaction leads to substitution or addition, is understandable since the initially formed **carbocation** is the most stable one, in which **aromatic sextets are preserved in two** of the three rings.
- This **carbocation** can then either **(a)** give up a proton to yield the substitution product, or **(b)** accept a nucleophile to yield the addition product.
- The tendency for these compounds to undergo addition is due to the comparatively **small sacrifice in resonance energy** (12 kcal/ mol for anthracene, 20 kcal/ mol or less for Phenanthrene).