

## PHARMACEUTICAL ORGANIC CHEMISTRY-II- BP301T

UNIT: 4 Polynuclear hydrocarbons

CLASS: 5

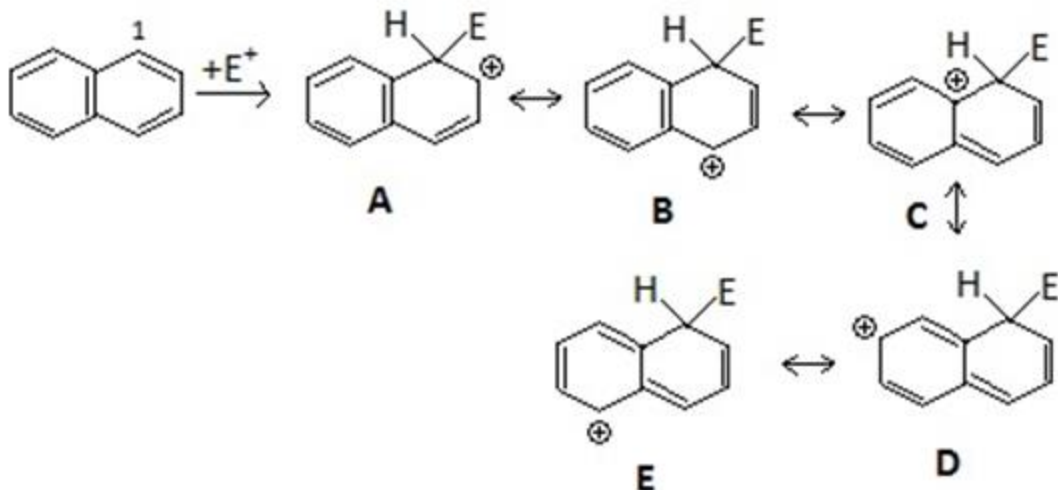
### TOPIC: Phenanthrene

#### Phenanthrene

Phenanthrene is a polycyclic aromatic hydrocarbon (PAH) composed of three fused benzene rings. The name phenanthrene is a composite of phenyl and anthracene. In its pure form, it is found in cigarette smoke and is a known irritant, photosensitizing skin to light.

electrophilic substitution reaction of phenanthrene

Electrophilic substitution reactions of phenanthrene occur at the 9 or 10 position. This is because the  $\sigma$  complex formed at the 9-position is more stable than the  $\sigma$  complex formed at other positions.



5 resonance structures. Two structures (A, B) have full benzene rings