

Q.41. Starting from naphthalene, how would you prepare

(i) Anthranilic acid

(ii) 2 (or β -) naphthol

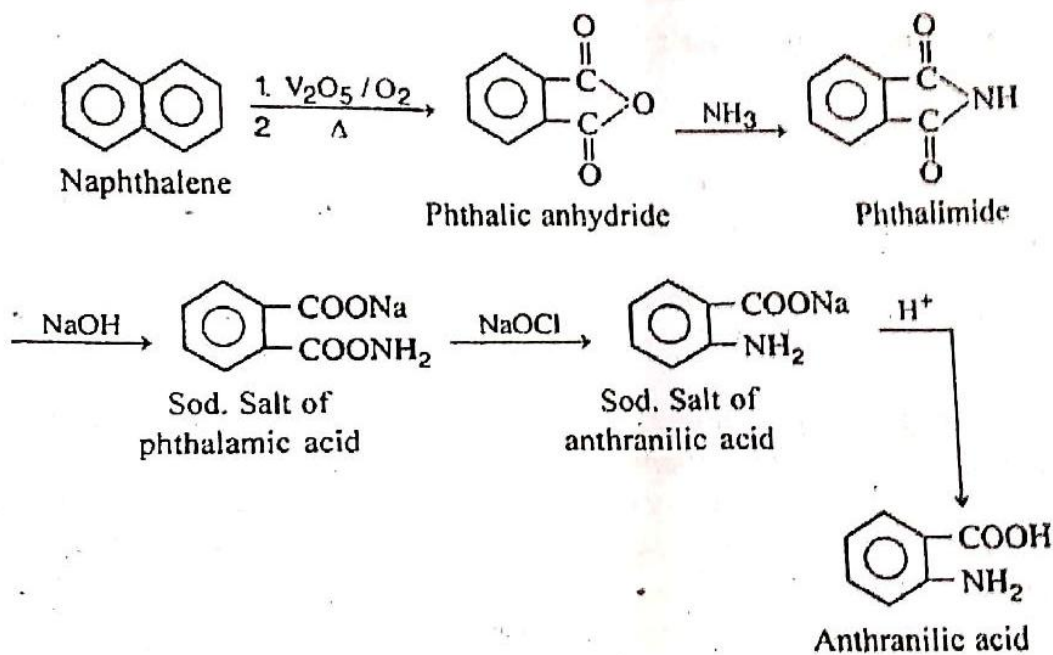
(iii) α -naphthoic acid

(iv) 2-nitronaphthalene

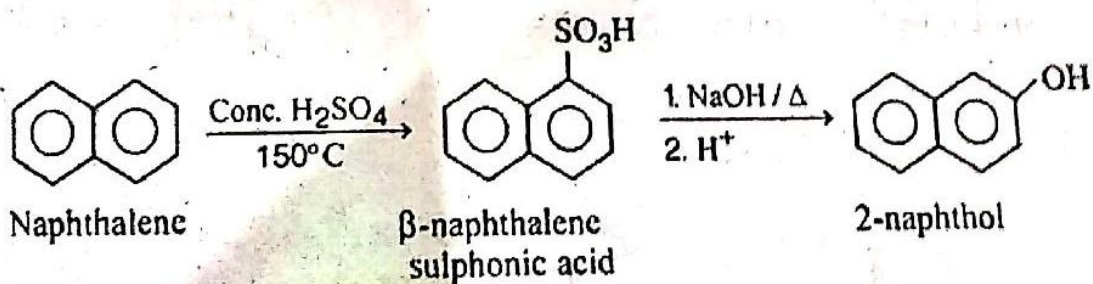
(v) 2-aminonaphthalene

Ans. : Naphthalene to—

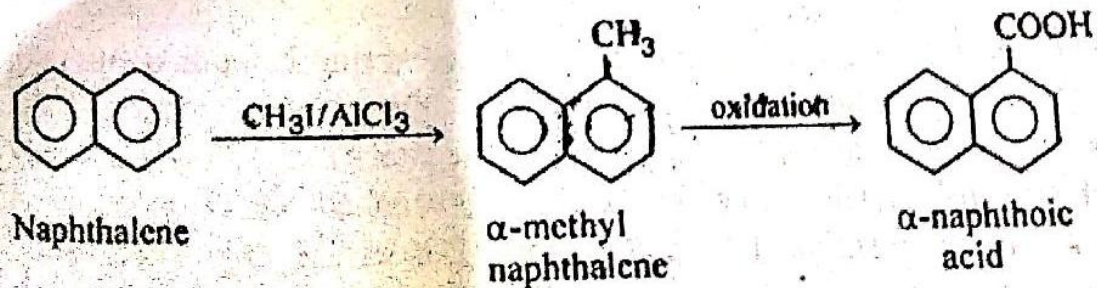
(i) Anthranilic acid :



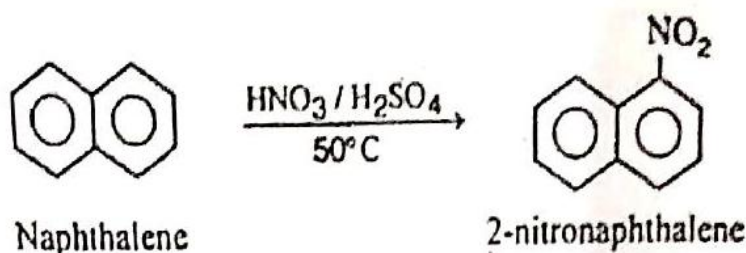
(ii) 2-naphthol :



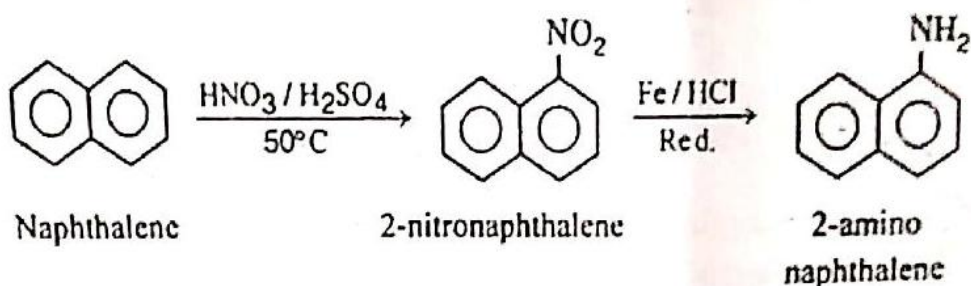
(iii) α -naphthoic acid :



(iv) 2-nitronaphthalene :



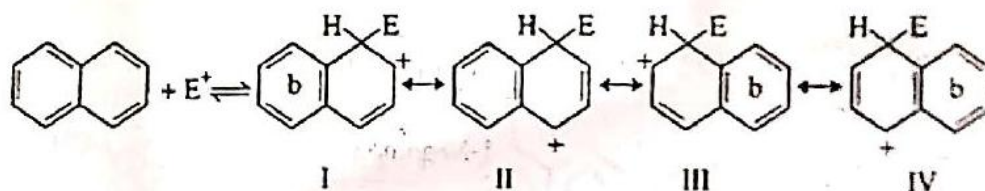
(v) 2-aminonaphthalene :



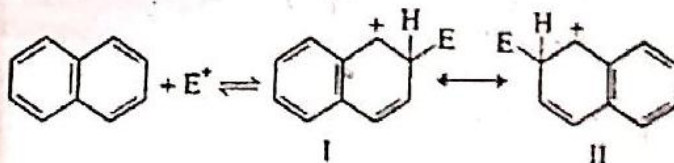
Q.42. Naphthalene is more reactive at position-1 than at position-2 in electrophilic substitution reactions—Why ?

Ans. : The relative reactivity of position-1 and position-2 of naphthalene molecule can be explained by examining the stability of the corresponding intermediates—

Attack at position—1



Attack at position - 2



The structure intermediate having one benzene ring is more stable than others. On this basis, the intermediate formed by the attack at position-1 has four resonating structures while that formed by the attack at position-2 has only two such structures in which one benzene ring is retained. Hence naphthalene is more reactive at position-1 than at position-2 in electrophilic substitution reactions.