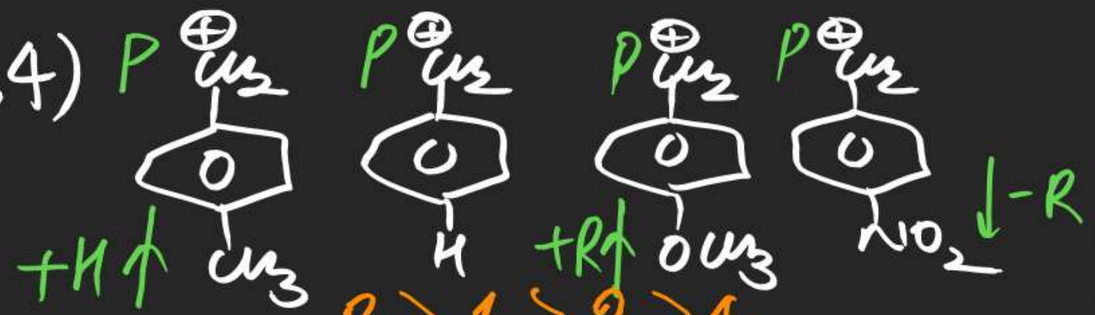
(31) $CH_3-\overset{\oplus}{C}H_2$ (P) $\quad CH_2=\overset{\oplus}{C}H$ (sp^2) $\quad HC\equiv\overset{\oplus}{C}$ (sp)

(32) 1 > 2 > 3 (% S orbital ∝ En)

1 > 2 > 3

(33) 3 > 2 > 1

(34) 

3 > 1 > 2 > 4

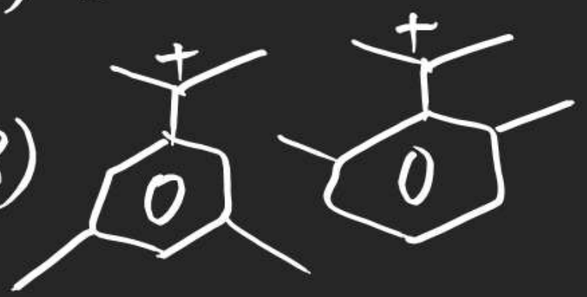
(35) Carbanion

4 > 2 > 1 > 3

(36) 

1 > 2 > 3 > 4

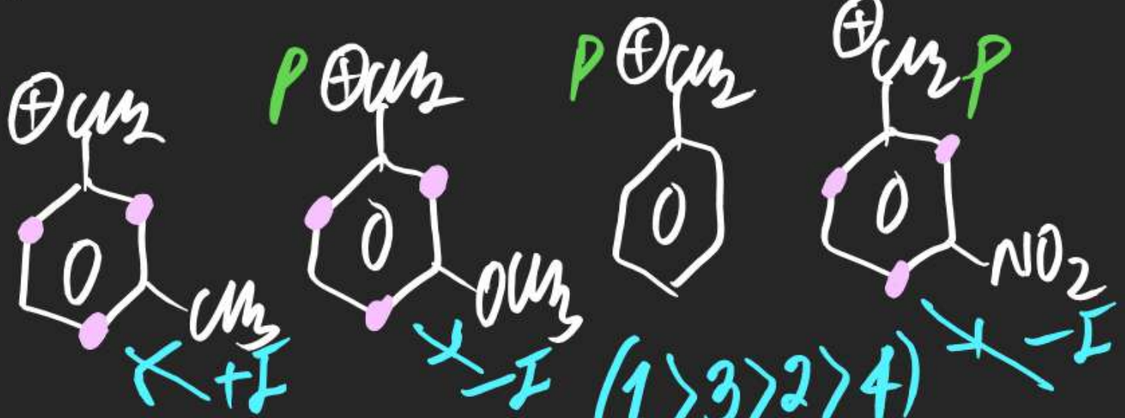
(37) Carbanion (4 > 3 > 2 > 1)

(38) 

1 > 2 (SIR)

(39) Free Radical 1 > 2 (SIR)

(40) Carbanion 1 > 2 (SIR)

(41) 

(1 > 3 > 2 > 4)

(42) Carbanion.

(4 > 2 > 3 > 1)

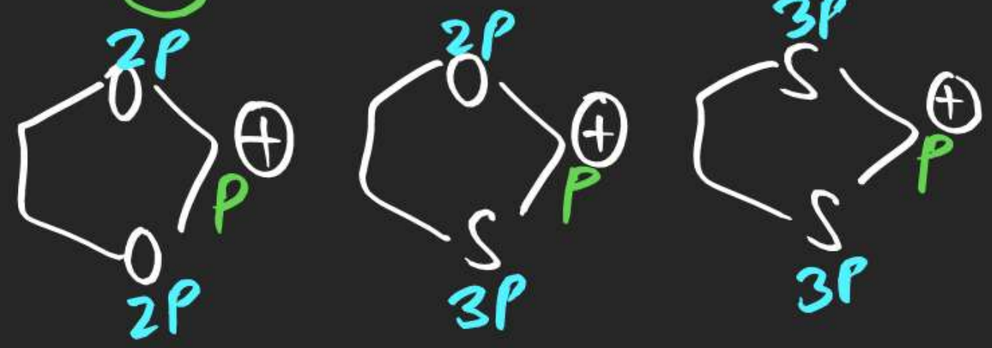
(43)

(2 > 1) (Bredt's Rule)

(44)

(1 > 3 > 2)

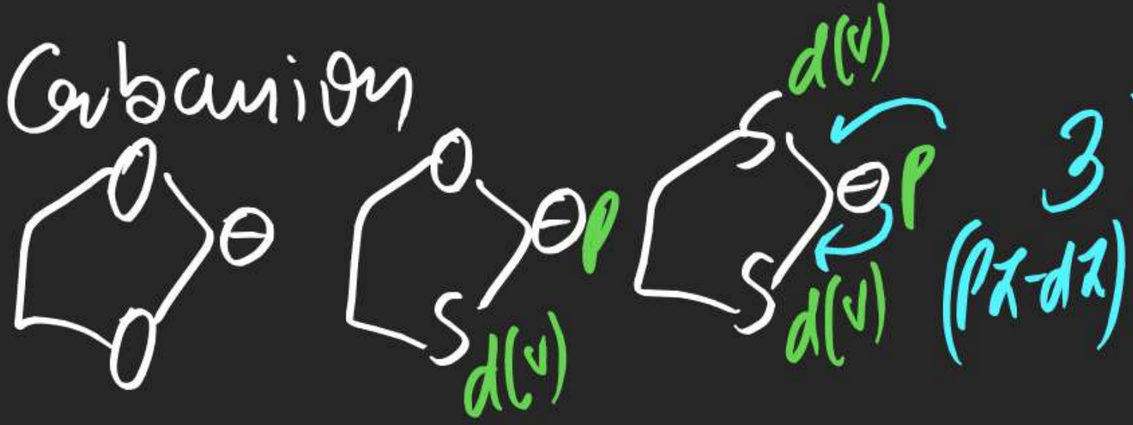
(45)



1 > 2 > 3

(2P-2P > 2P-3P > 3P-3P)

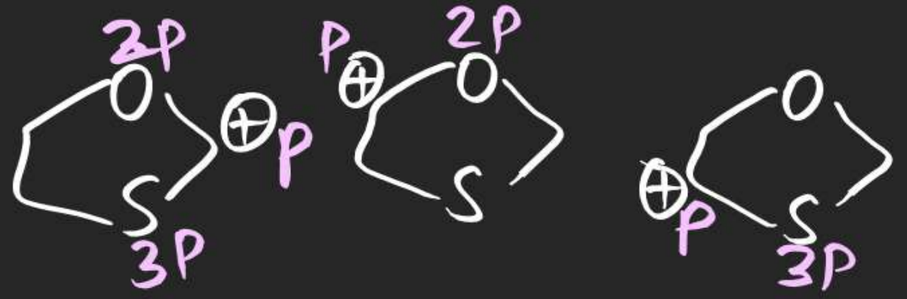
(46) Carbanion



3 > 2 > 1

(Px-dz)

∴

(47) 

(1 > 2 > 3)

(48) 

(Anti Aromatic)

2 > 1 > 3

(49) Carbanion 
6π e⊖ Aromatic (3 > 2 > 1)

Cl → Carbon.

(50) 
(2 > 3 > 1)

(51) Free Radical

SP P (2 > 3 > 1)

ना Real

ना स्थिर

(Stability order) 

Condition for Aromatic Compound :-

Compounds must be

(a) Cyclic
(b) Planer (sp or sp^2)
(c) Cyclic Conjugated
(d) $(4n+2)\ \pi e^{\ominus}$ { $n = 0, 1, 2, 3 - - - -$ }

Huckle's Rule — Huckle No. (2, 6, 10, 14 - - - - - -)

(#) Anti Aromatic compound:-

All cyclic Compounds which are highly unstable than its open chain analogous system are known as Anti aromatic Compound.

Condⁿ for Anti Aromatic Compound

(a) cyclic ✓
(b) planer ✓
(c) Conjugated ✓
(d) $4n\pi$ e⁻ ✓ $(n = 1, 2, 3 \sim \ldots)$ $[4, 8, 12, 16 \sim \ldots]$

(#) Non Aromatic Compound :-

⇒ Compounds which are neither Aromatic nor Anti Aromatic are known as Non Aromatic Compounds.

Note: (1) Stability order

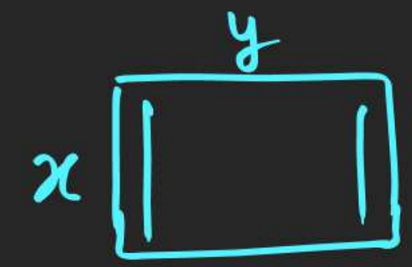
Aromatic Compound > Non Aromatic > Anti Aromatic

Imp (ii) Cyclic Compounds containg more than 7 Carbon atoms are never Anti Aromatic

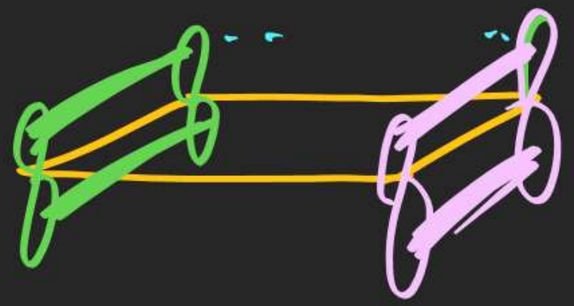
(iii) Anti Aromatic Compound don't Exist at Room Temperature in its pure form & gets dimerised.

(In CycloButa-1,3-diene is found to have that it Containg two different C–C Bond length are present

It means Anti Aromatic Compounds are not Stablised By Resonance.



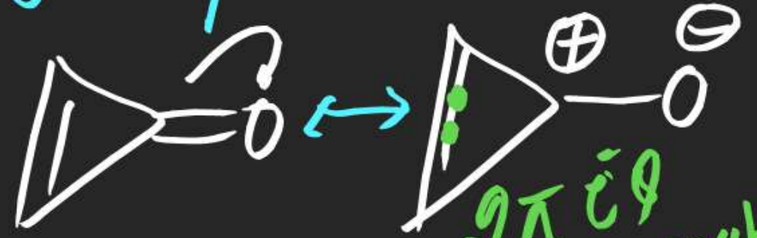
$x \neq y$



(#) Quasi Aromatic Compound:

⇒ Aromatic Compounds having Curve delocalisation are known as Quasi Aromatic Compound

Ex:



Cyclic Conjug Planer Huckle No.

(1) 

✓ ✗ ✓ ✓ 2π
Non Aromatic

(2) 
✓ ✓ ✓ ✓ 2π
(Aromatic)

(3) 
✓ ✓ ✓ ✓ (2π)
(Aromatic)

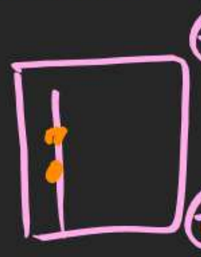
(4) 
✓ ✓ ✓ 4π
(Anti Aromatic)

(6) 

✓ ✗ ✓ 2π
(Non Aromatic)

(6) 
✓ ✓ ✓ 4π
Anti Aromatic

(7) 
✓ ✓ ✓ 2π
Aromatic

(8) 
✓ ✓ ✓ 6π
Aromatic

(9) 
✓ ✗ ✗ 2π
Non Aromatic

(10) 

✓ ✗ ✓ 4π
Non Aromatic

(11) 

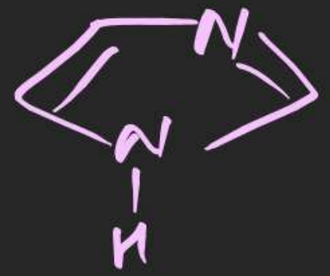
(12)  Aromatic ✓ ✓ ✓ 6π

(13) 

(14) 

(15) 

(16) 

(17) 

(18) 

(19) 

(20) 

✓ ✓ ✓ 6π

(21) ✓  Aromatic.

(22) 

(23) 

(24) 

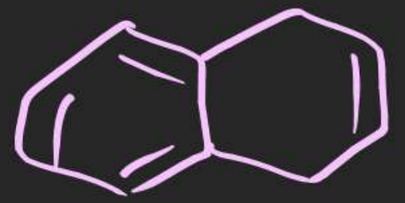
(25) 

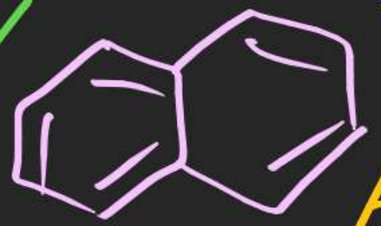
(Benzyne)

(26) 

(27) 

(28) 

(29) 

(30) ✓ 

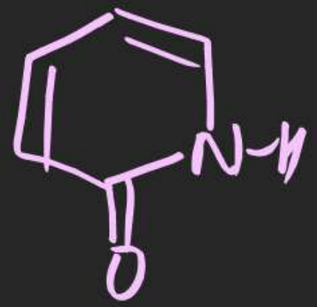
✓ ✓ ✓ 10π

Aromatic

(31) 

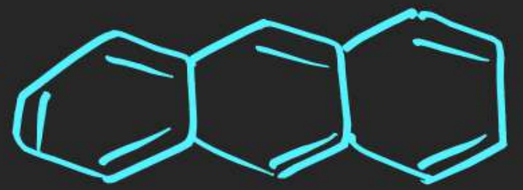
(32) 

(33) 

(34) 

(35) Inorganic Benzene
or
Borazine
or
Borazole ($B_3N_3H_6$)

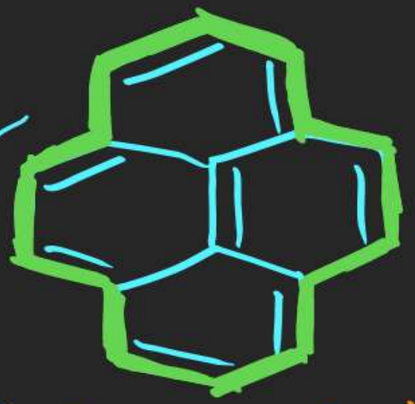
✓ ✓ ✓ 14π

(36) 

(Aromatic)

(37) 

(38)



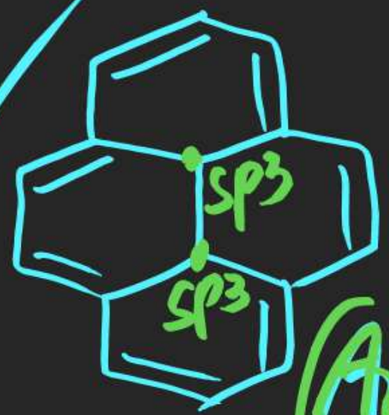
✓ ✓ ✓ ~~16π~~

14 π e⁻s

largest Conjugated cyclic periphery

(Aromatic)

(39)

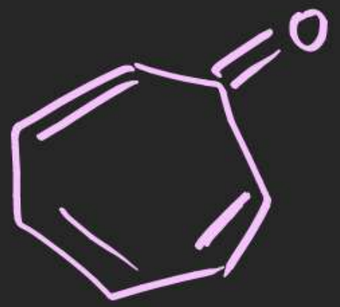


(Aromatic)

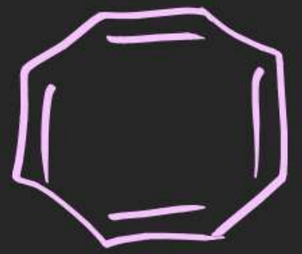
(40)

(41)

(42)



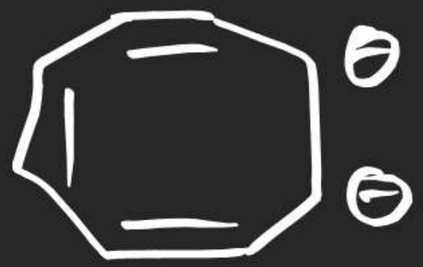
(43)



(44)

or

(45)

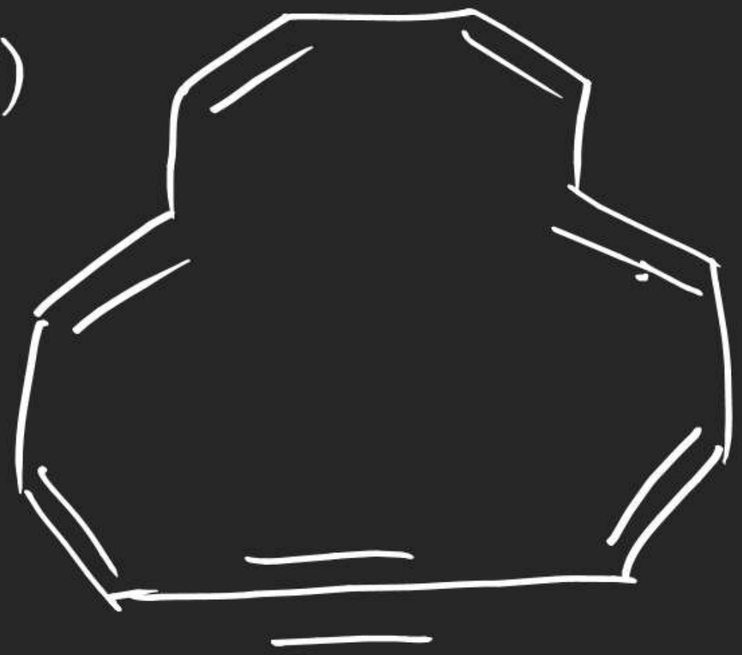


(46) Annulene-[10]

(47) Annulene-[14]

(48)

(49)



(50) Annulene-[16]

(51) Annulene-[10]

(52) Azulene