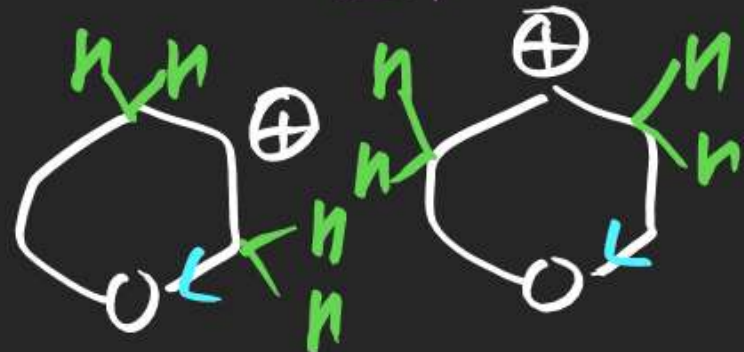


(43)



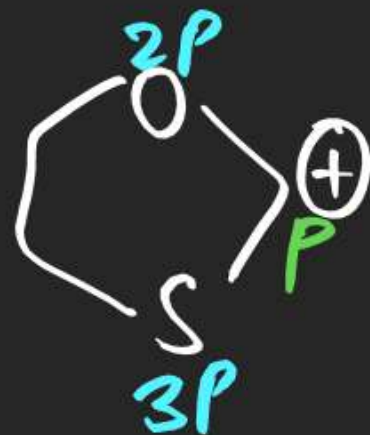
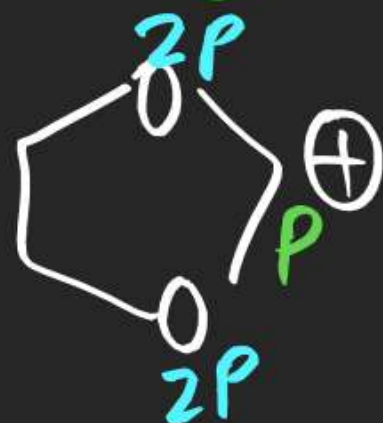
(2 > 1) (Bredt's Rule)

(44)



(1 > 3 > 2)

(45)



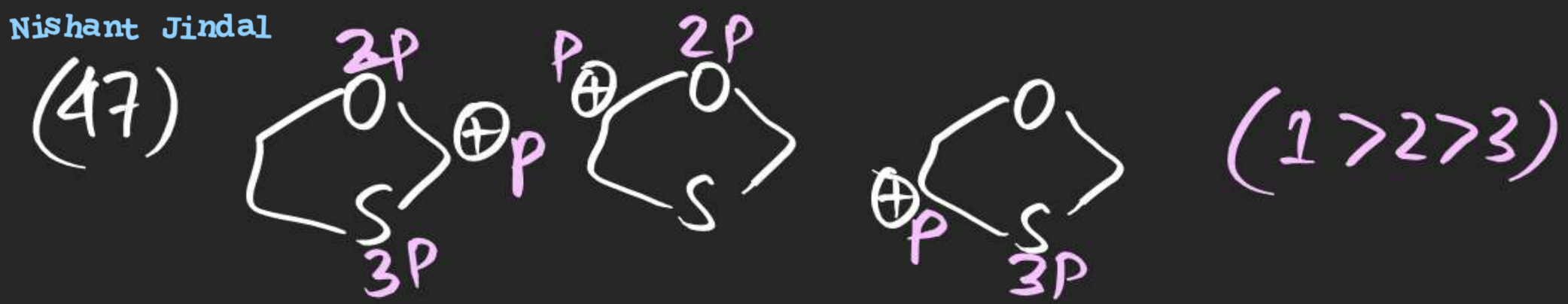
1 > 2 > 3  
(2P-2P > 2P-3P > 3P-3P)

(46)

Carbanion



3 > 2 > 1  
(p<sub>x</sub>-d<sub>x</sub>)



(Anti Aromatic)  
C<sub>2</sub>  
↓  
Carbon.

नास्तिक

(Stability order)



Condition for Aromatic Compound :-

Compound must be

- (a) Cyclic
- (b) Planar ( $sp$  or  $sp^2$ )
- (c) Cyclic Conjugated
- (d)  $(4n+2) \pi e^-$   $\left\{ n=0, 1, 2, 3, \dots \right\}$   
Hückel's Rule Nucle 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.



Cond<sup>n</sup> for Anti Aromatic compound

- (a) cyclic ✓
- (b) planar ✓
- (c) conjugated ✓

(d)  $4n\pi$  e<sup>-</sup> ✓  $(n=1, 2, 3, \dots)$   $[4, 8, 12, 16, \dots]$

# (#) Non Aromatic Compound!

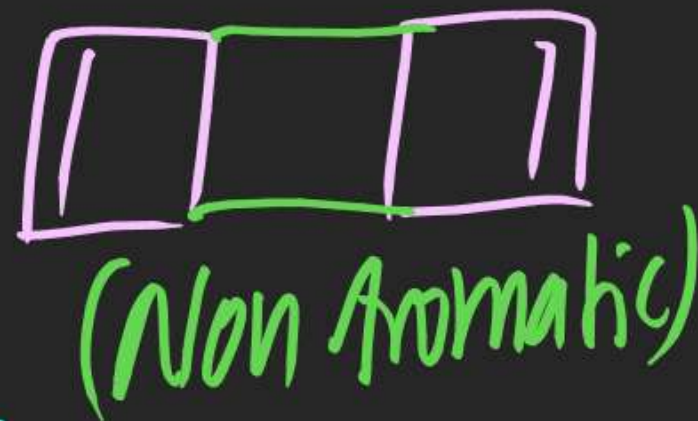
⇒ Compounds which are neither Aromatic nor Anti Aromatic are known as Non Aromatic Compounds.

Note: (i) Stability order

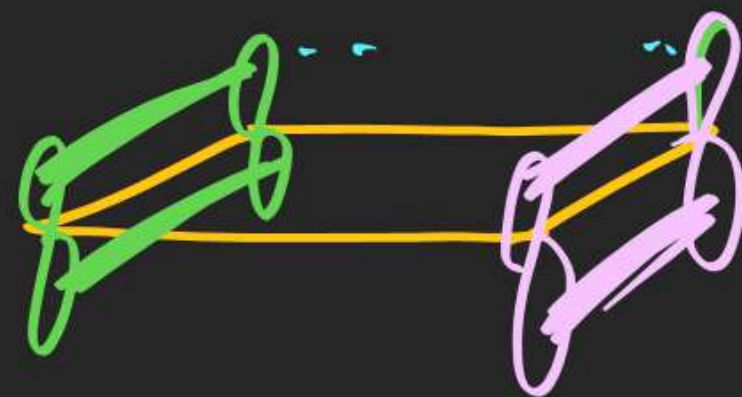
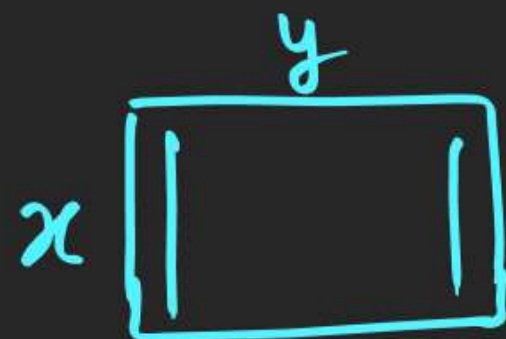
Aromatic Compound > Non Aromatic > Anti Aromatic

~~(ii)~~ Cyclic compounds containing more than 7 carbon atoms are never Anti Aromatic.

(ii) Anti Aromatic compound doesn't exist at Room Temperature in its pure form & gets dimerised.

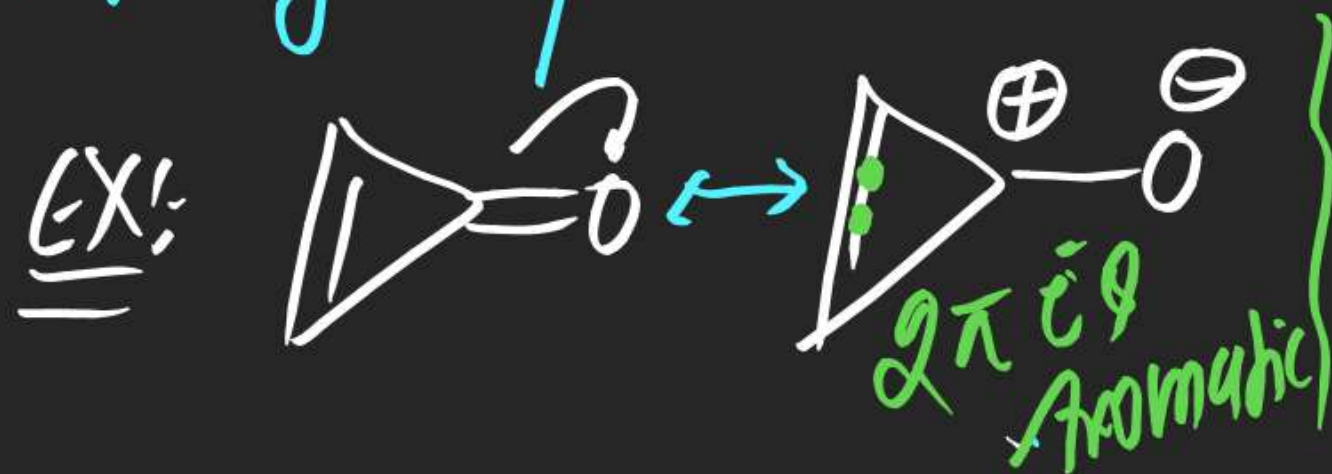








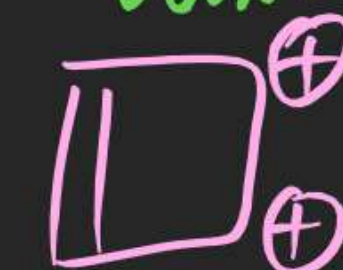
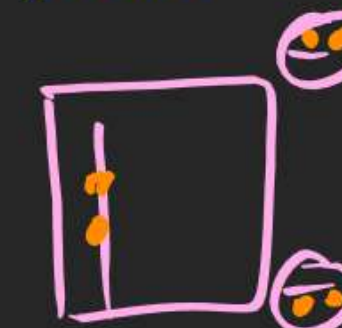


(iv) Cyclobuta-1,3-diene is found to have that it contains two different C-C Bond lengths are present. It means Anti Aromatic Compounds are not stabilised by Resonance.



(#) Quasi Aromatic Compound!

⇒ Aromatic Compounds having charge delocalization are known as Quasi Aromatic Compound

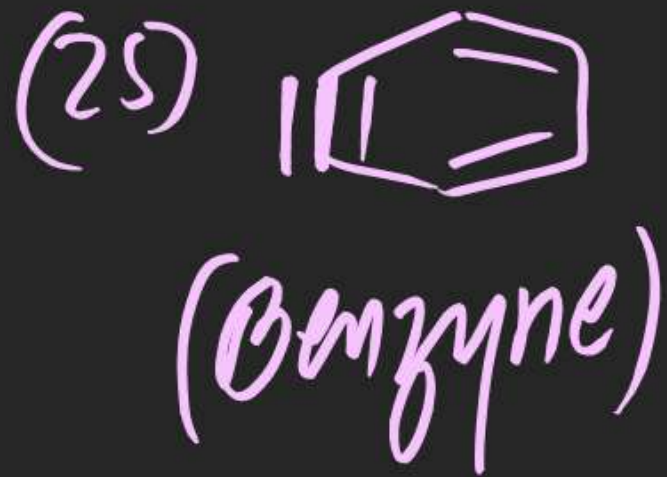


	Cyclic	Conjug	Planar	Huckle No.	
(1)		✓	✗	✓ 2π	
	Non Aromatic				
(2)		✓	✓	✓ 2π	
(3)		✓	✓	✓ (2π)	
(4)		✓	✓	4π	
	(Anti Aromatic)				
(5)		✓	✗	✓ 2π	
	(Non Aromatic)				
(6)		✓	✓	✓	4π
	Anti Aromatic				
(7)		✓	✓	✓	2π
	Aromatic				
(8)		✓	✓	✓	6π
	Aromatic				
(9)		✓	✗	✗	2π
	Non Aromatic				
(10)		✓	✗	✓	4π
	Non Aromatic				

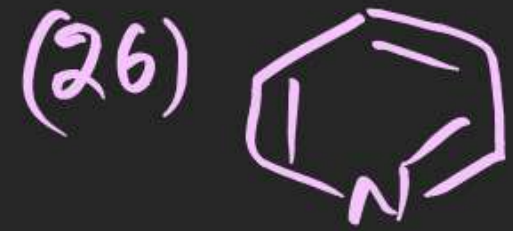




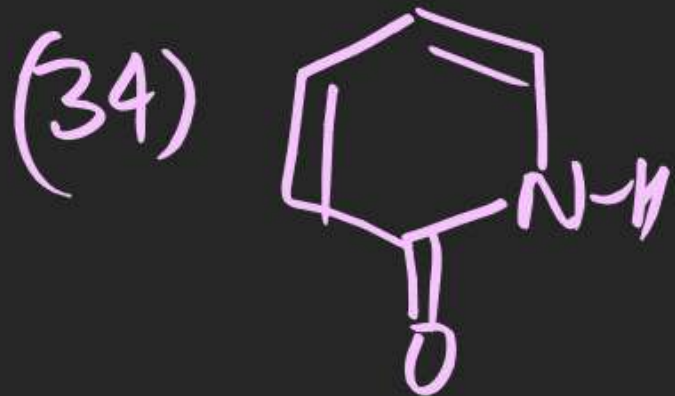
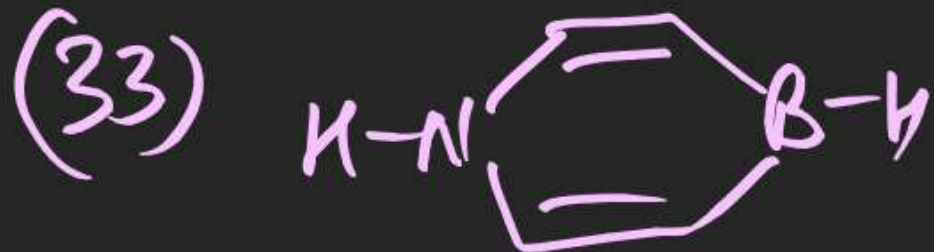
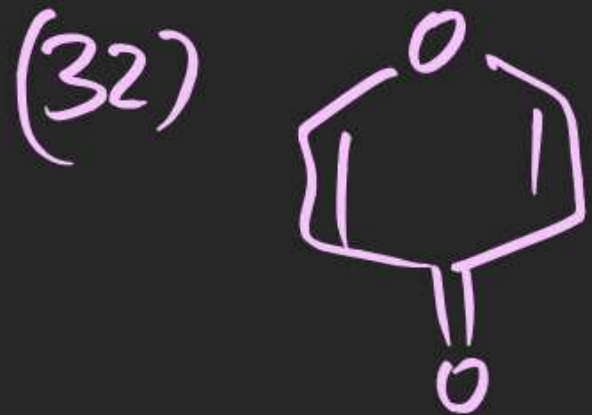
Aromatic



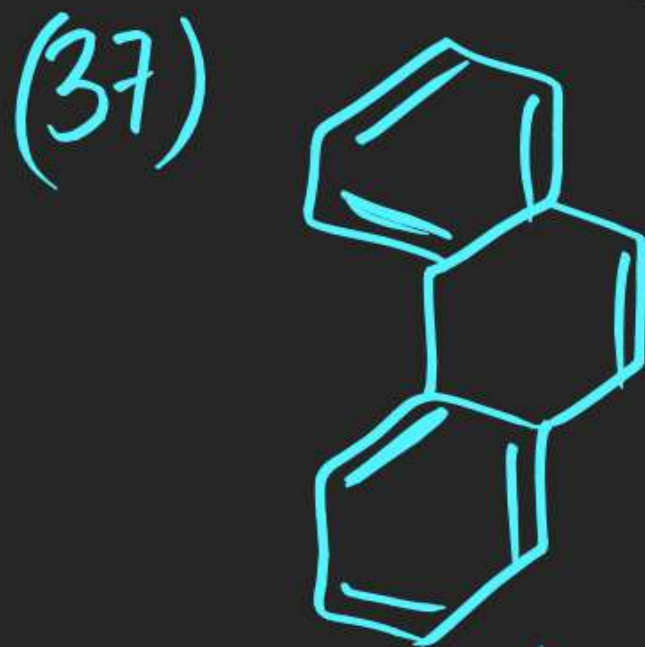
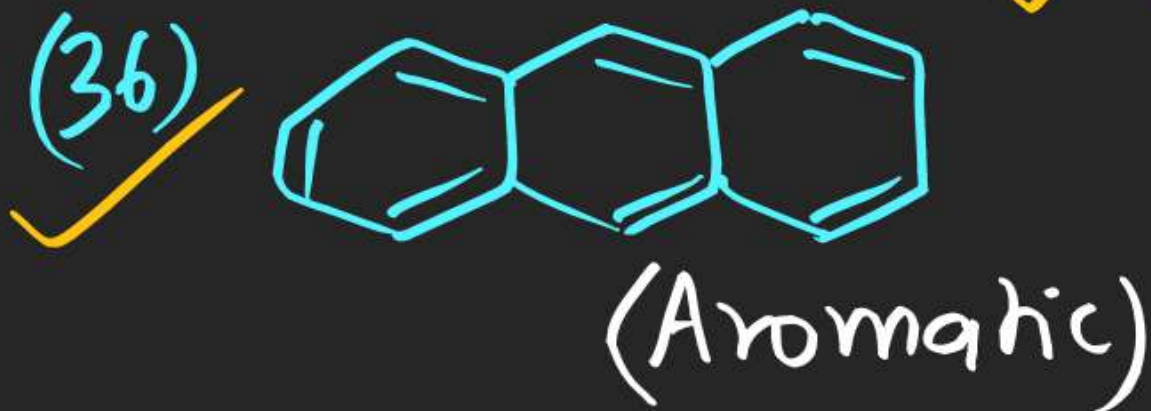
✓ ✓ ✓ 6 $\pi$



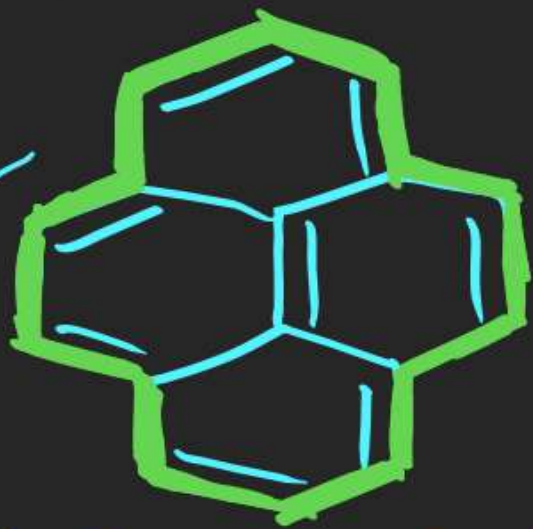
✓ ✓ ✓ 10 $\pi$   
Aromatic



✓ ✓ ✓  $14\pi$



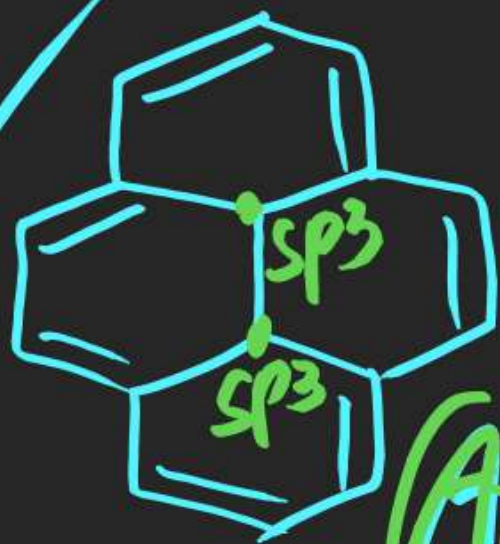
(38)



(Aromatic)

✓ ✓ ✓ ~~16π~~  
 $14\pi e^-$   
largest conjugated  
cyclic periphery

(39)



(Aromatic)

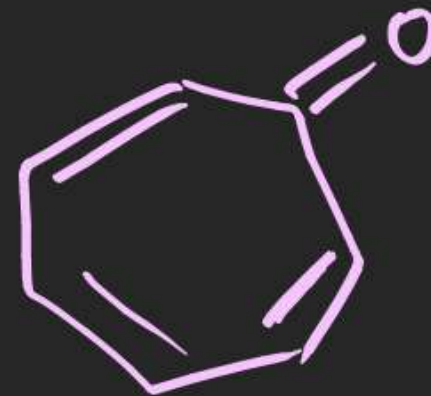
(40)



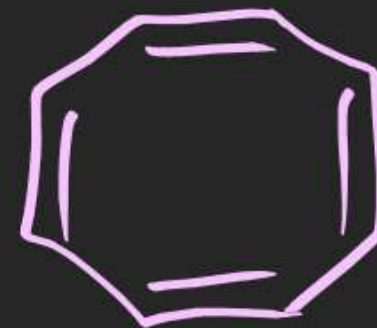
(41)



(42)



(43)



(44)





(46) Annulene-[10]

(47) Annulene-[14]



(48)



(49)



(50) Annulene-[16]

(51) Annulene-[18]

(52) Azulene

