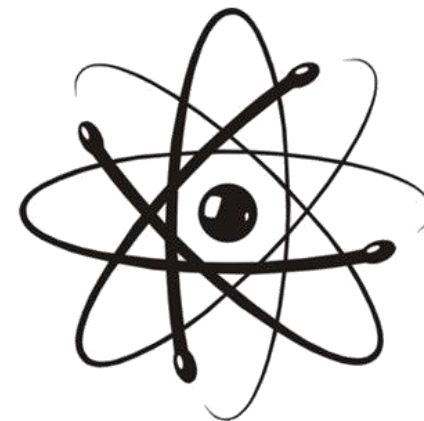


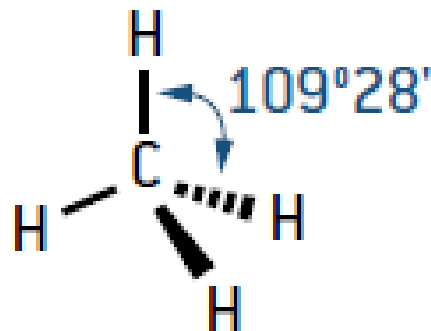
Adição e Substituição em Ciclanos

Prof. Francis Isotton
Química



Adição/Substituição em Ciclanos

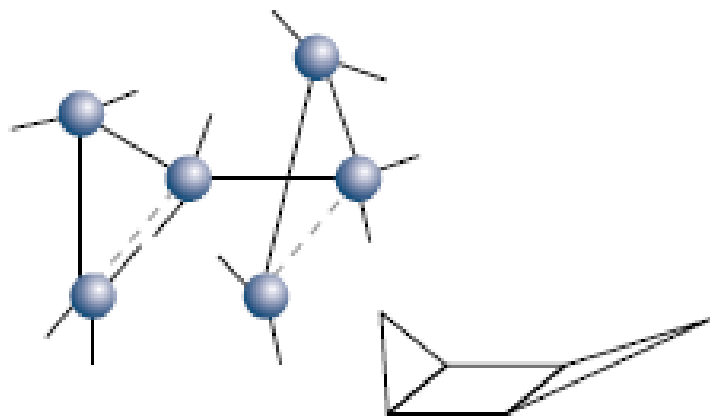
Em 1885, Johann Friedrich Wilhelm Adolf von Baeyer propôs uma teoria para explicar o comportamento químico diferente dos ciclanos. Já se sabia, por meio de determinações matemáticas, que o ângulo formado por ligações simples (carbono saturado – sp^3) apresentava valor $109^\circ 28'$, estrutura que distribuía os quatro ligantes do carbono numa geometria tetraédrica.



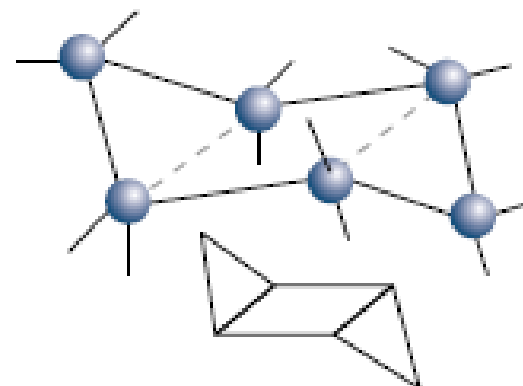
Ângulo de estabilidade total entre as ligações.

Principais Ciclanos/Ângulos

Ciclo-hexano (forma espacial)



Barco



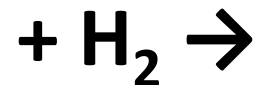
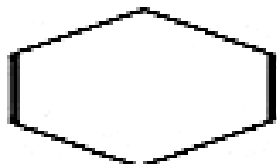
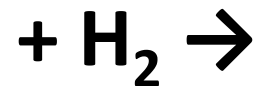
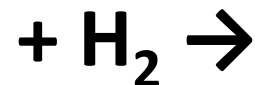
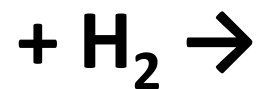
Cadeira

O cicloexano nas duas formas: barco e cadeira.

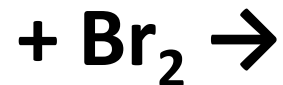
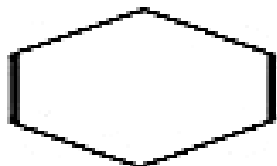
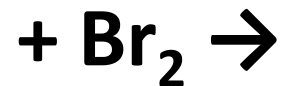
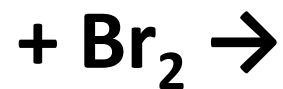
Ordem crescente de estabilidade

Ciclopropano < Ciclobutano < Ciclopentano < Ciclo-hexano

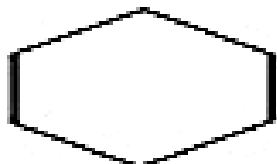
Hidrogenação de Ciclanos:



Halogenação de Ciclanos:



Hidroalogenação de Ciclanos:



Módulo 19

363, 365, 367,

368, 370.

Agenda 2020