

AZOLES Y HETEROCICLOS NITROGENADOS

ANALOGÍAS, GENERALIDADES, PROPIEDADES COMUNES Y NOCIONES DE REACTIVIDAD

CLAVES

SEA = SUSTITUCIÓN ELECTROFÍLICA AROMÁTICA.

SNA = SUSTITUCIÓN NUCLEOFÍLICA AROMÁTICA.

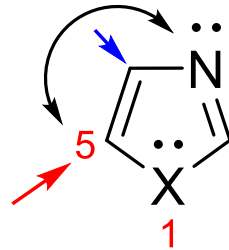
GS = GRUPO SUSTRADOR DE E-.

GD = GRUPO ELECTRODONADOR.

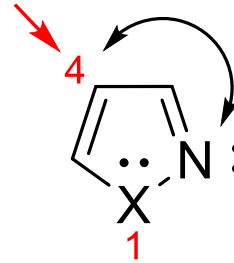
SEA en azoles 1,3 y azoles 1,2

*se da en la posición meta o 1,3
respecto al N*

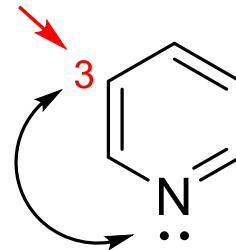
→ SEA menos
favorecida



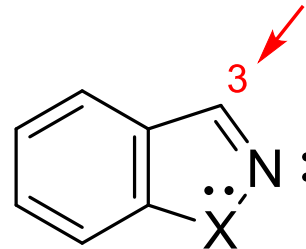
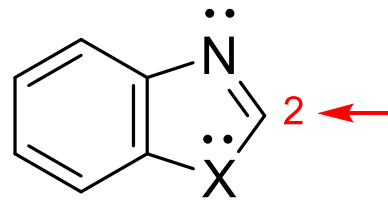
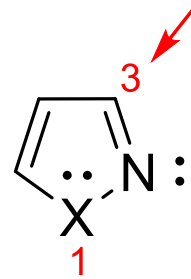
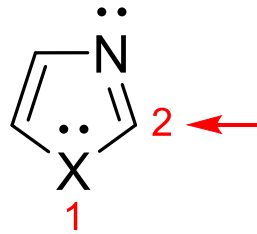
*se da en la posición meta o 1,3
respecto al N*



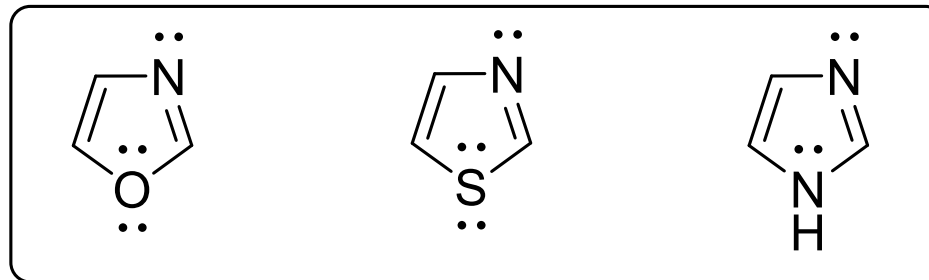
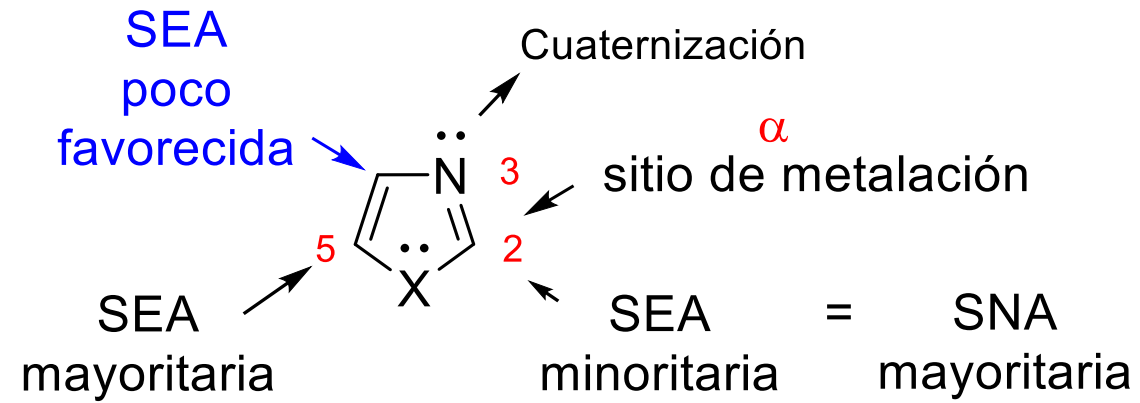
*se da en la posición meta o 1,3
respecto al N*



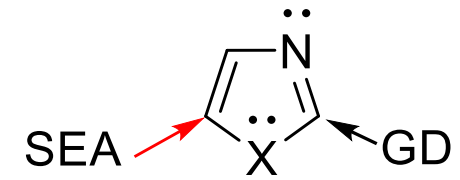
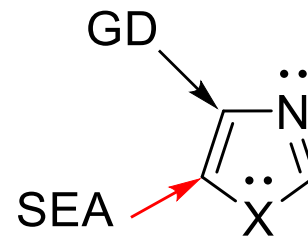
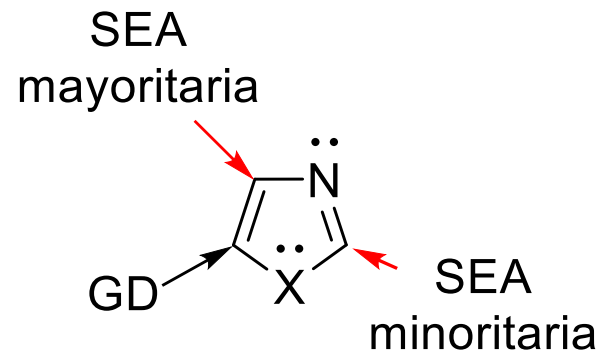
SNA en azoles 1,3 y azoles 1,2



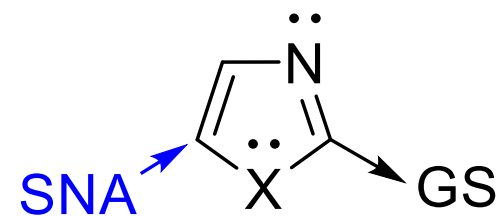
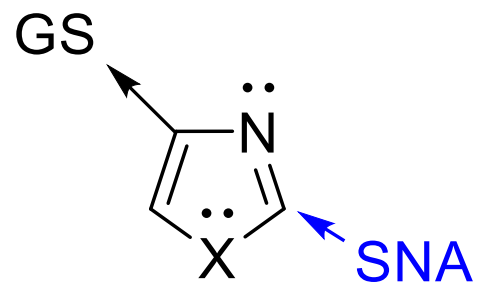
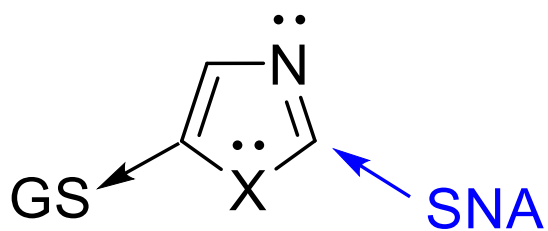
Azoles 1,3



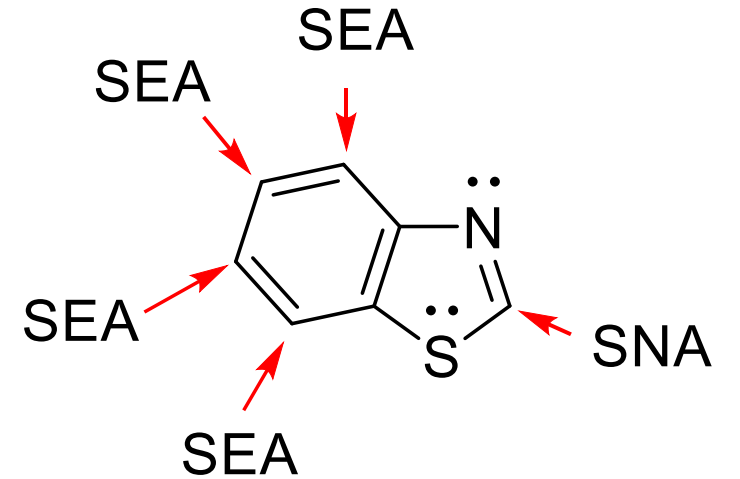
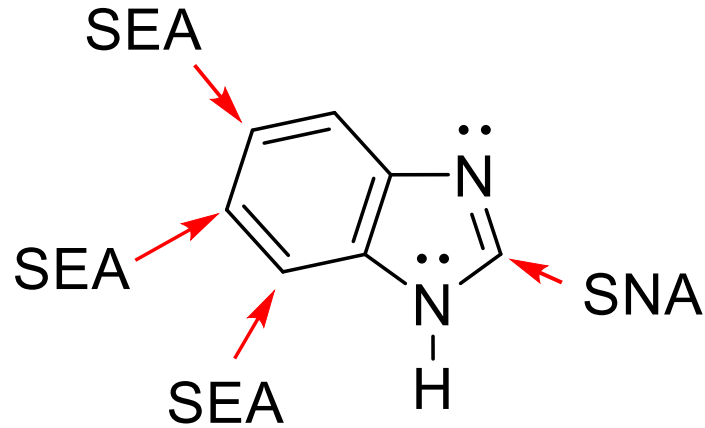
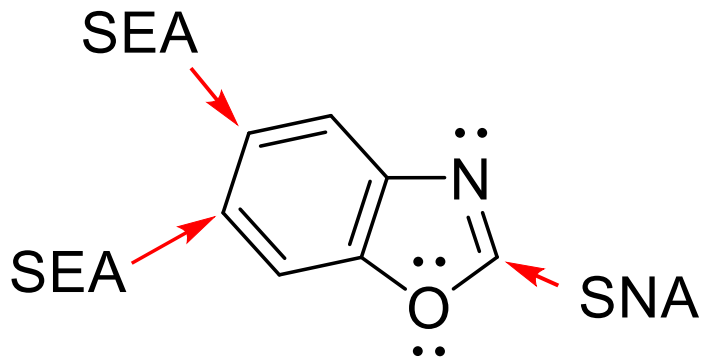
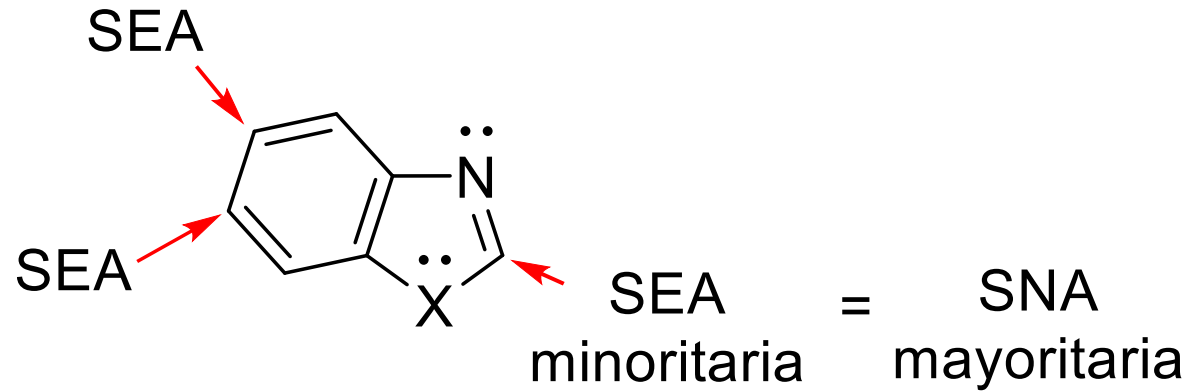
Azoles 1,3, SEA, GD



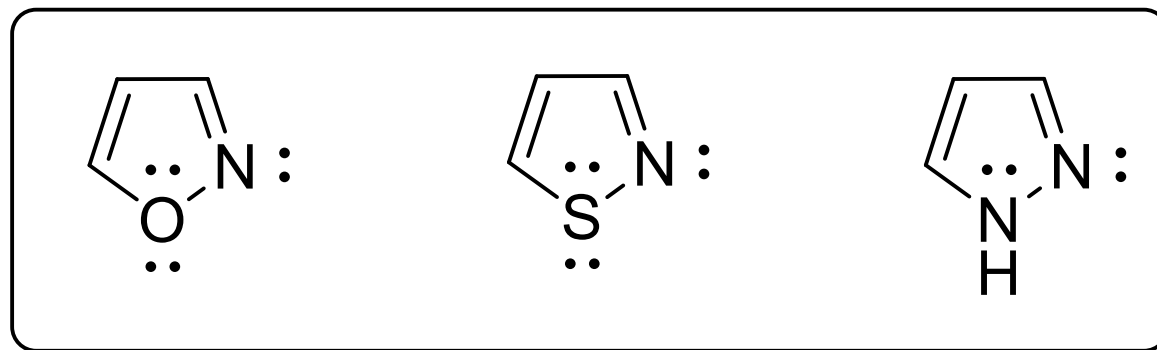
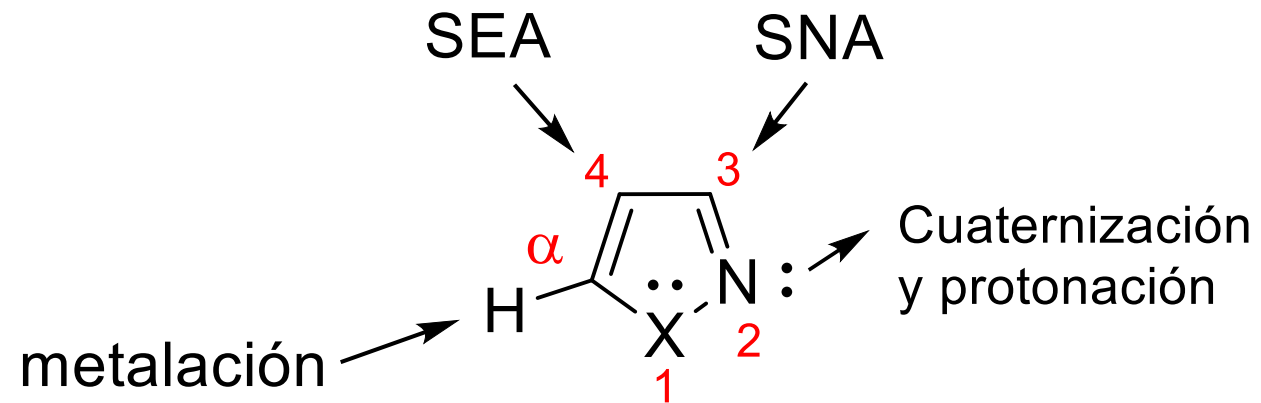
Azoles 1,3, GS



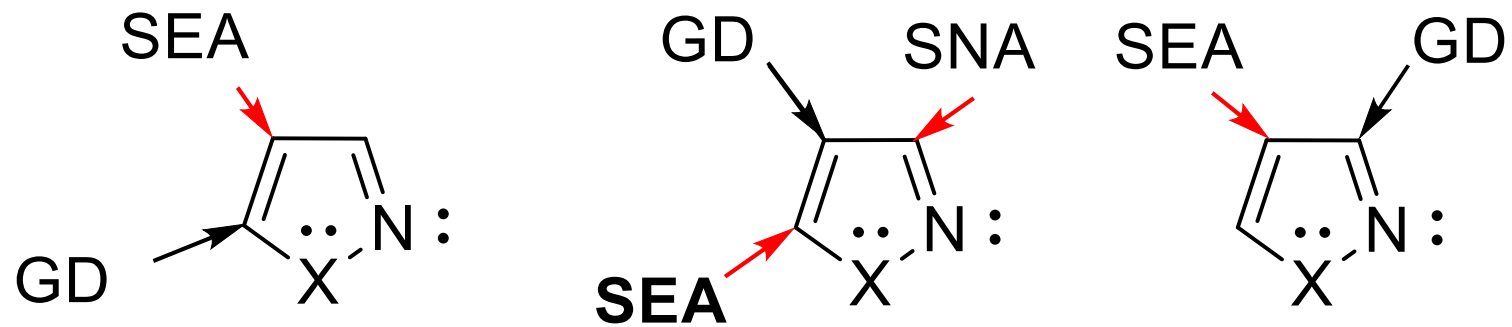
Benzo[d]azoles 1,3, SEA y SNA



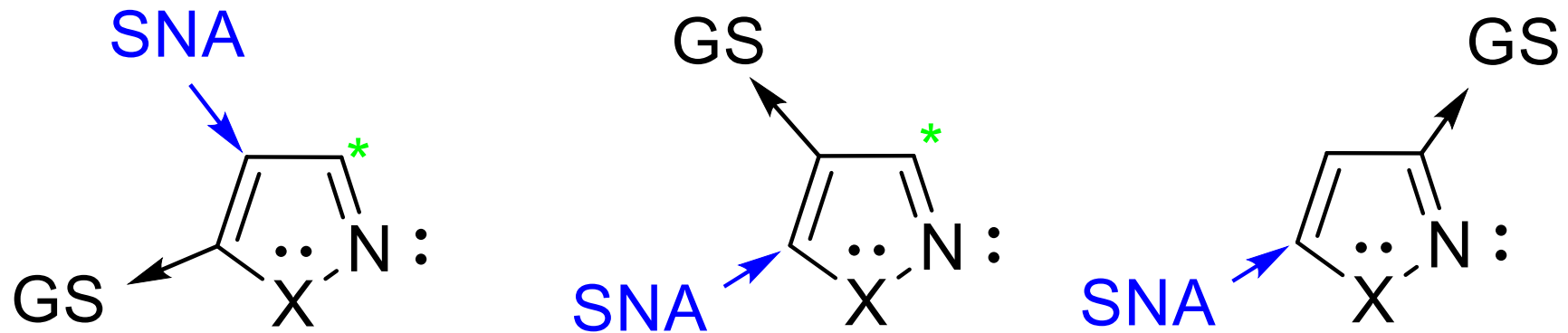
Azoles 1,2



Azoles 1,2, GD

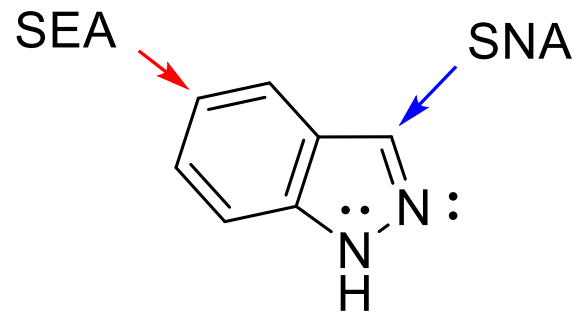
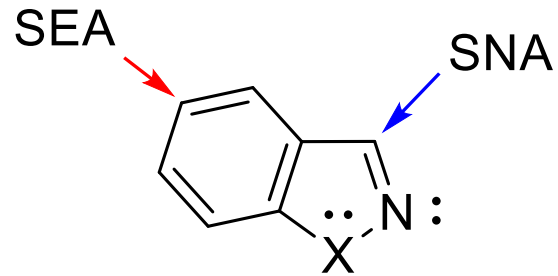


Azoles 1,2, GS



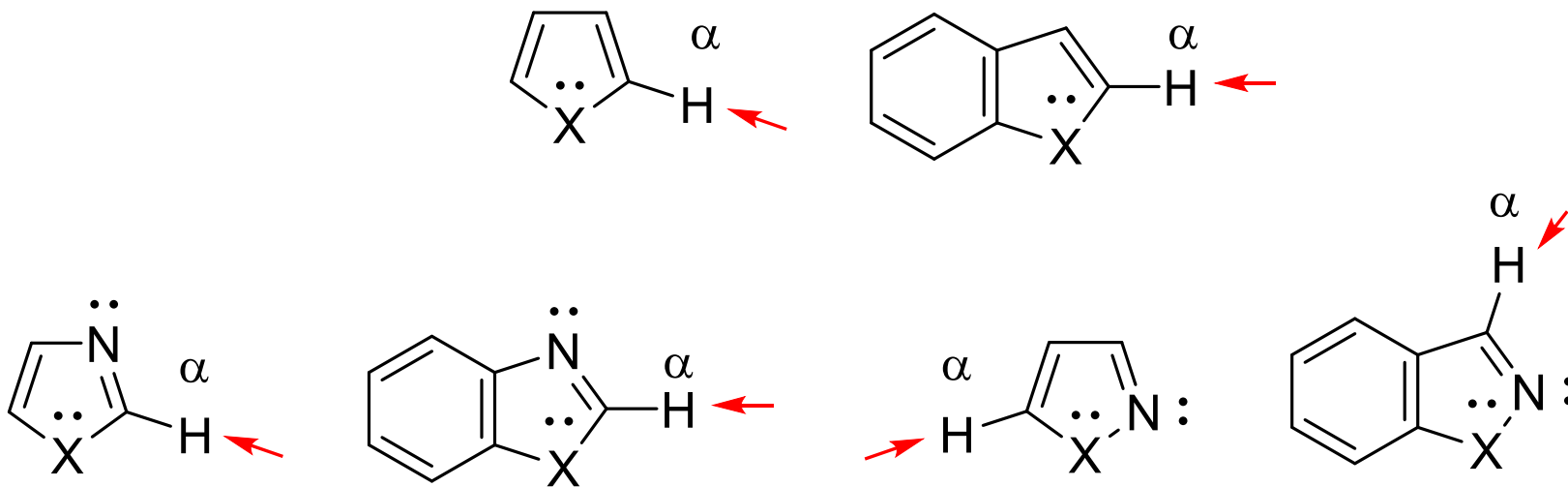
*SNA siempre favorecida

Benzo[d]azoles 1,2, SEA y SNA

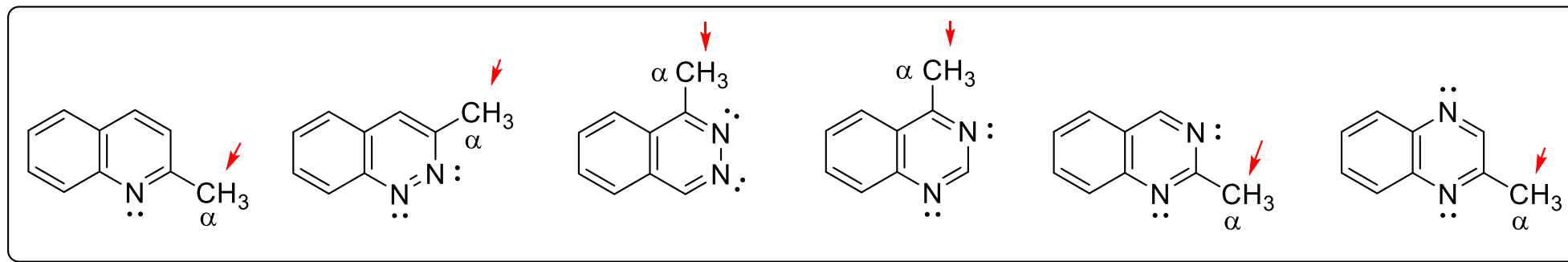
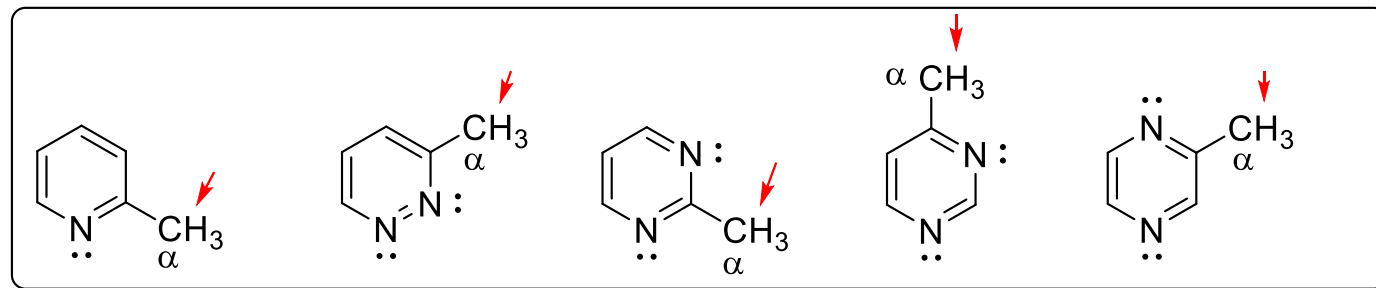
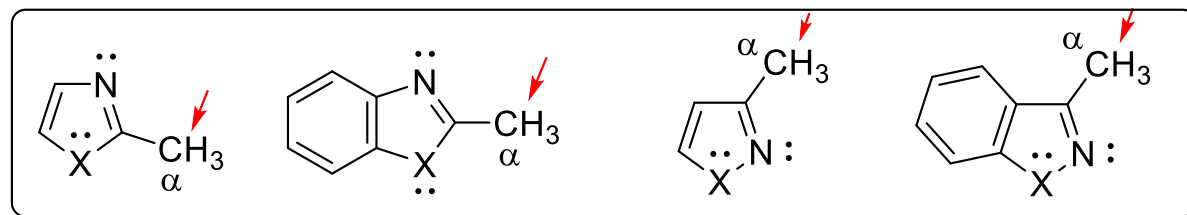
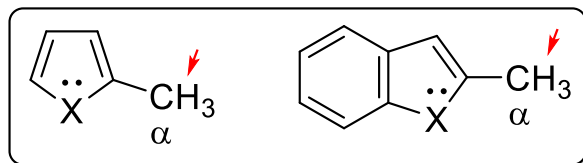


más estable

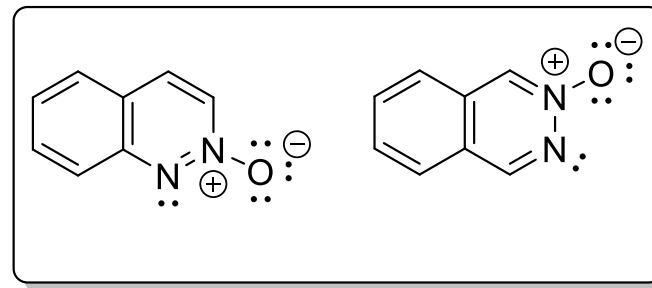
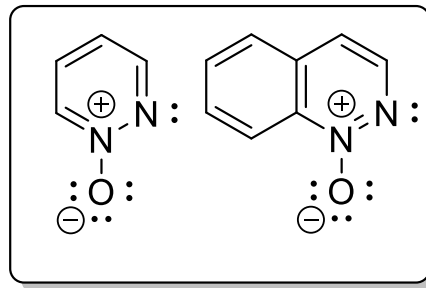
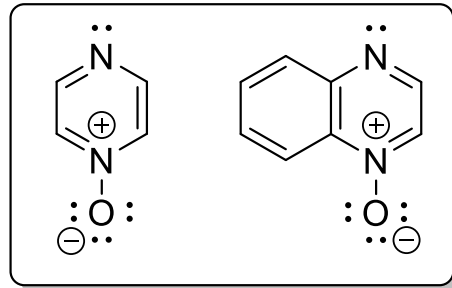
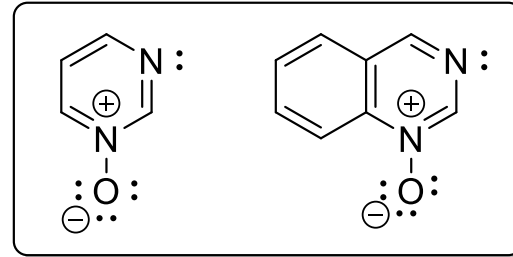
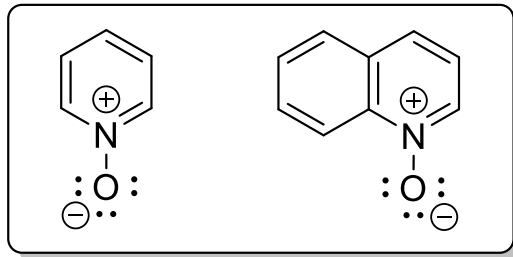
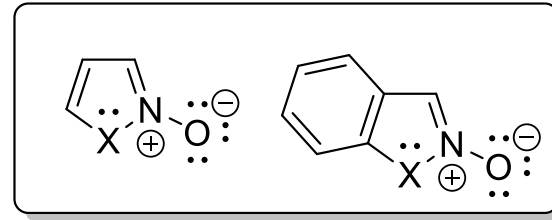
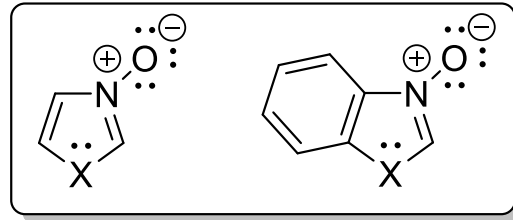
Metalación



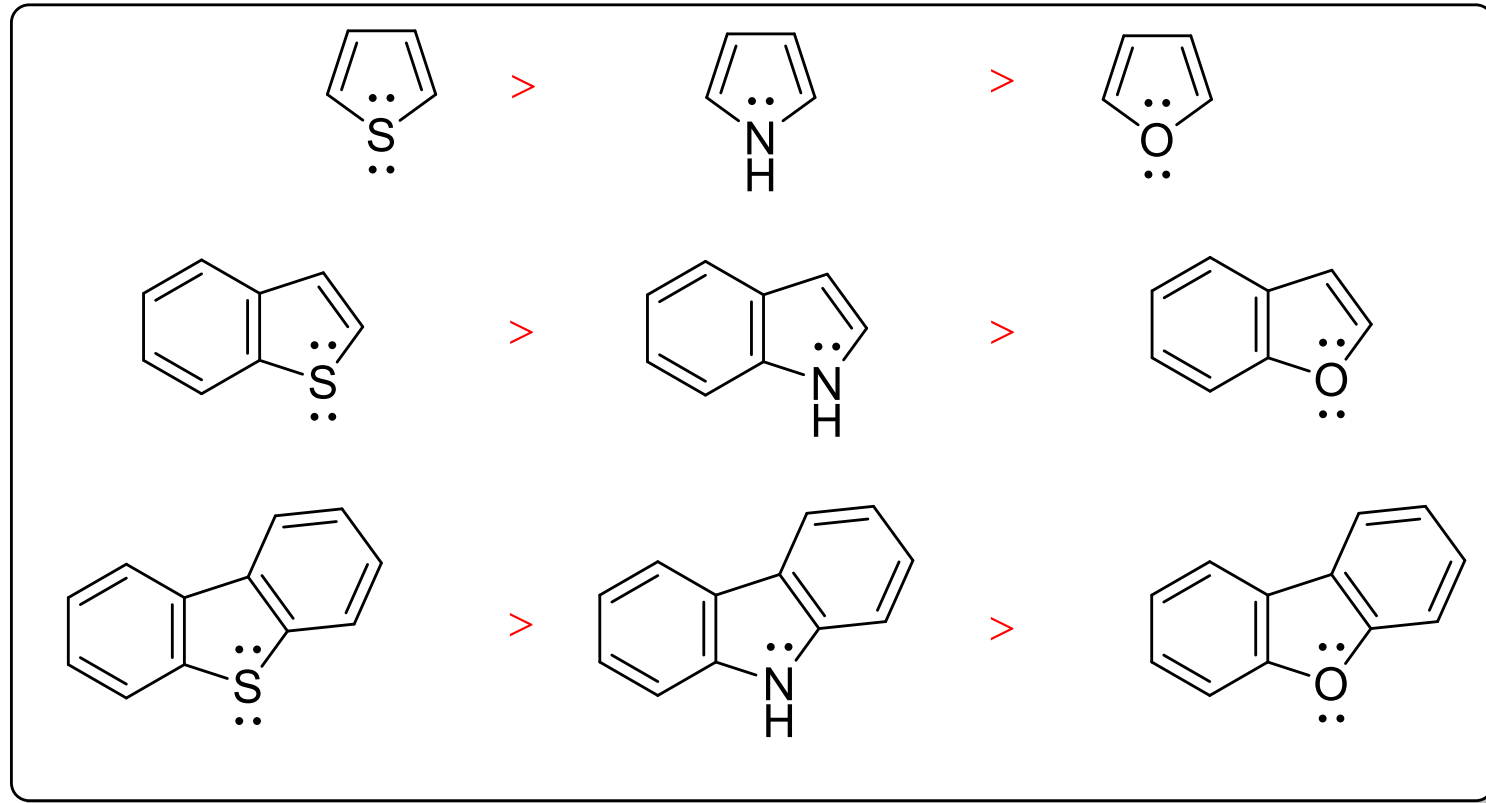
H ácidos en derivados metilados



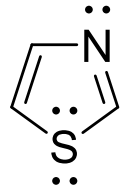
N-Óxidos en heterociclos con N nucleofílico



Aromaticidad I



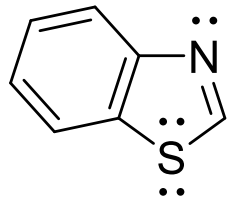
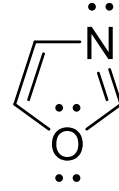
Aromaticidad II



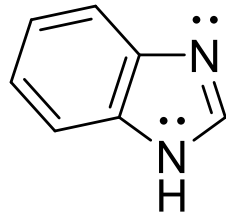
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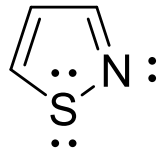
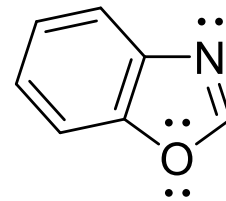
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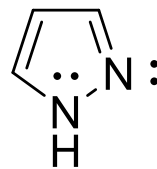
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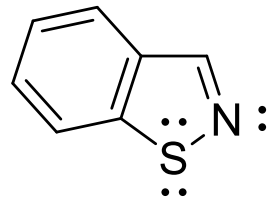
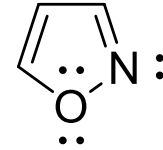
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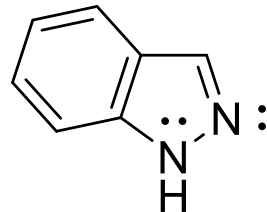
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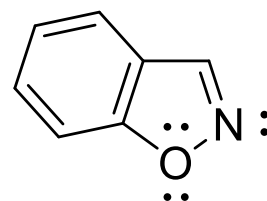
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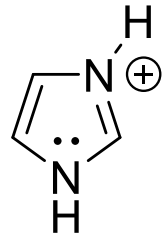
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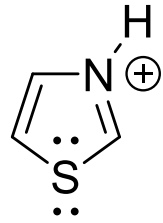
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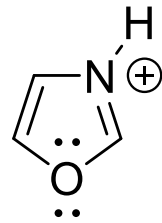
Basicidad



Imidazolio



Tiazolio

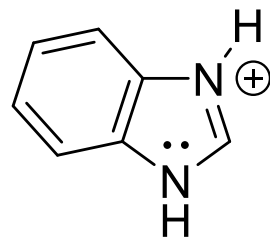


Oxazolio

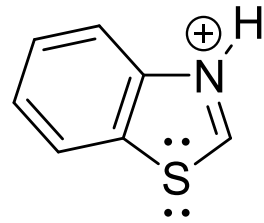
aumenta pK_a



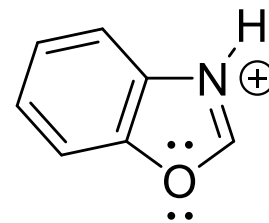
aumenta la basicidad



Bencimidazolio

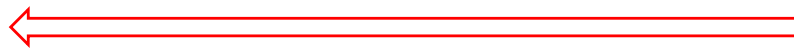


Benzotiazolio



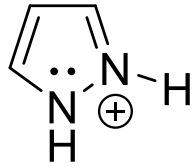
Benzoxazolio

aumenta pK_a

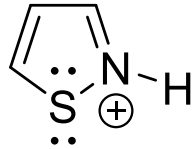


aumenta basicidad

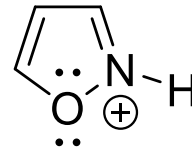
Basicidad



Pirazolio

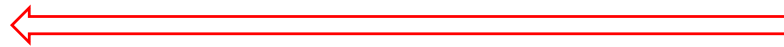


Isotiazolio

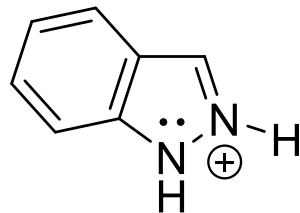


Isoxazolio

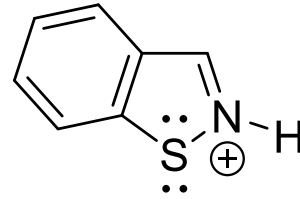
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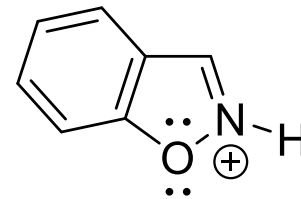
aumenta la basicidad



Benzopirazolio



Benzoisotiazolio



Benzisoxazolio

aumenta pK_a



aumenta la basicidad

Protonación de azoles dinitrogenados

