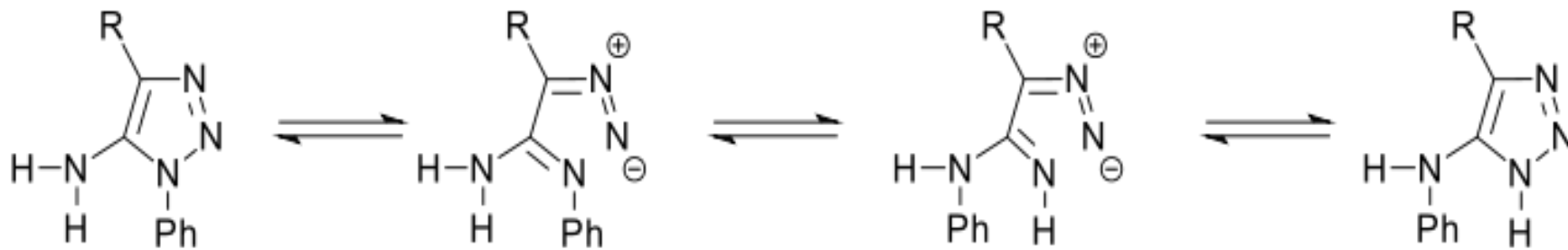


Dimroth Rearrangement

1. 简介

杂环化合物（嘧啶、氮唑、嗟等）中（环内外）**杂原子**与其所连的**杂原子取代基**之间，经历一个异构化过程，发生位置转变的重排反应称为—**Dimroth 重排反应**。

举例：



2.历史

- The first observation of this type of rearrangement was made by B. Rathke on a triazine derivative but no rationalization was provided to explain the findings.
- In 1909, O. Dimroth proposed the correct mechanism for the rearrangement of a triazole derivative.
- The generality of the process was first recognized in the pyrimidine series in the mid-1950s and later proved to be even more general; it was shown to occur in many nitrogen-containing heterocyclic systems.

3. 分类

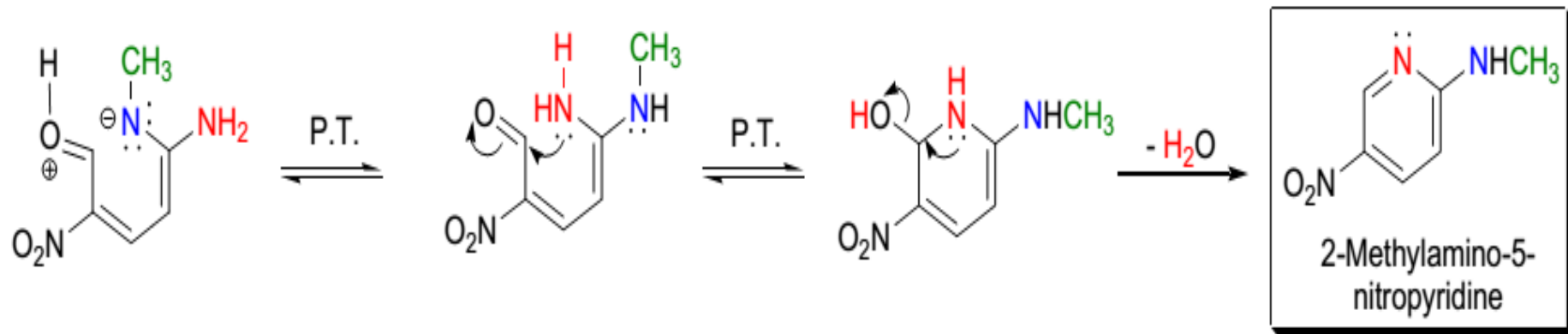
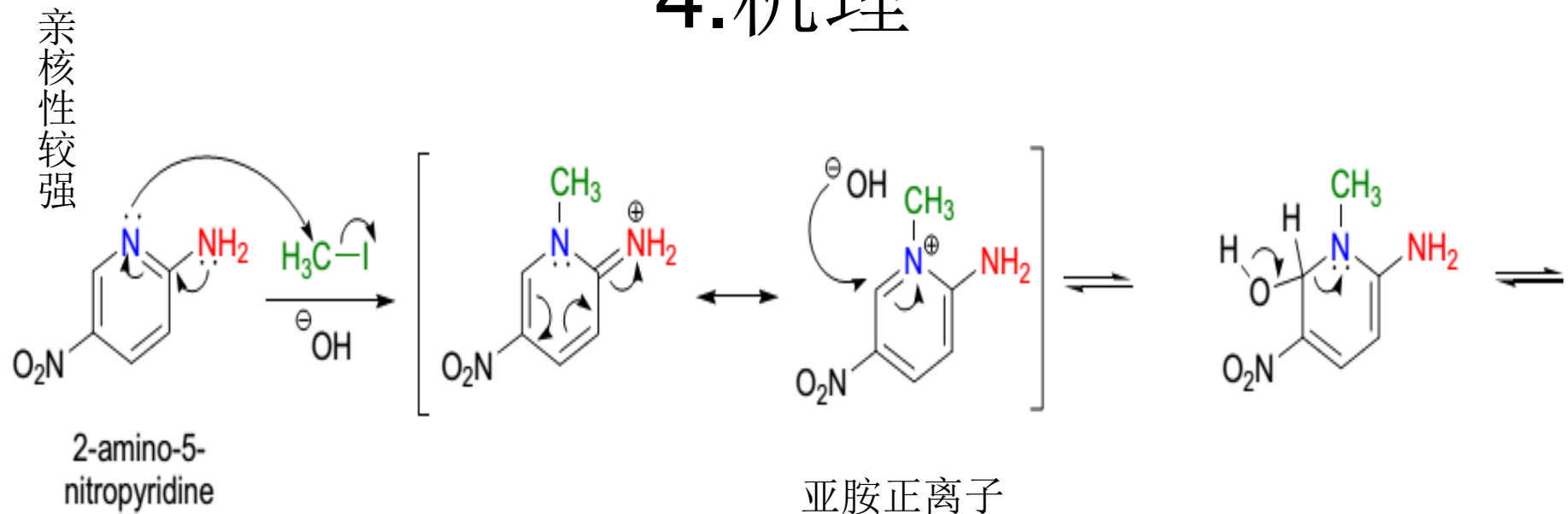
The rearrangement may be divided into two types:

- 1) translocation of heteroatoms within rings of fused systems (Type I)
- 2) translocation of exo- and endocyclic heteroatoms in a heterocyclic ring (Type II).

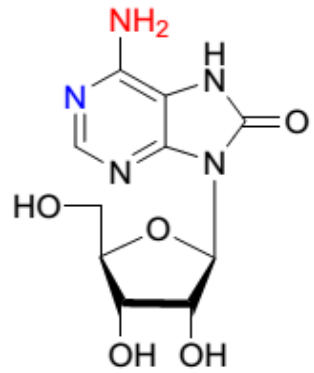
The second type of rearrangement is more common than the first.

The Dimroth rearrangement can be catalyzed by acids, bases (alkali), heat, or light.

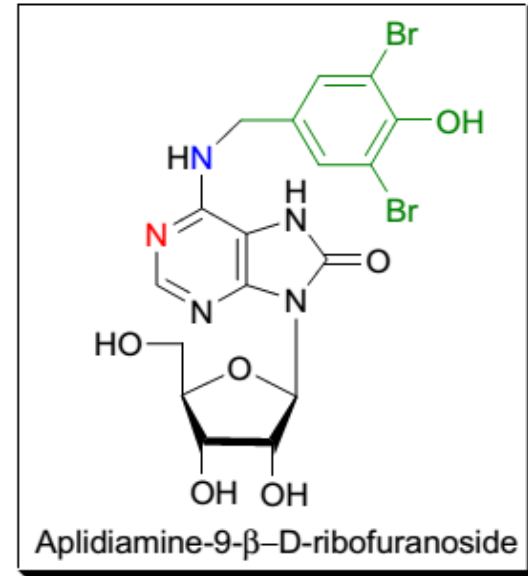
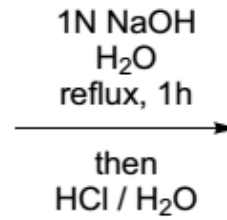
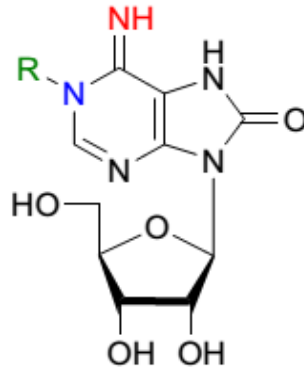
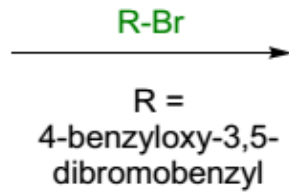
4.机理



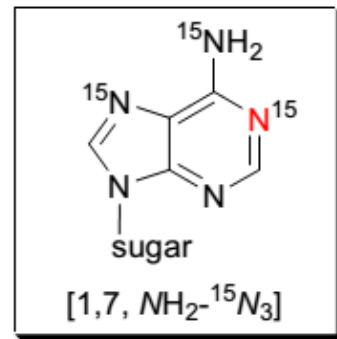
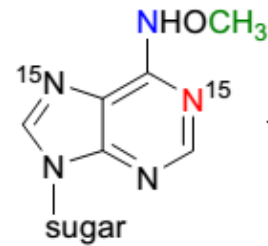
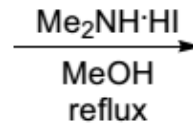
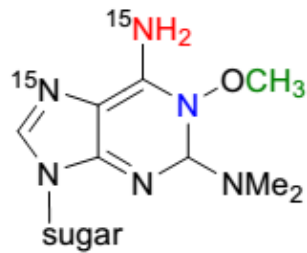
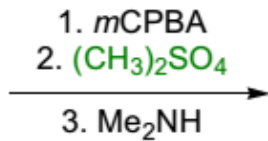
5.应用



8-oxoadenosine



Aplidiamine-9-β-D-ribofuranoside



[1,7, NH₂-¹⁵N₃]

Scheme 1

