

17.10

Reaction with Primary Amines:

Imines

Some reactions of aldehydes and ketones progress beyond the nucleophilic addition stage

Acetal formation

Imine formation

Compounds related to imines

Enamines

The Wittig reaction

Some reactions of aldehydes and ketones progress beyond the nucleophilic addition stage

Acetal formation

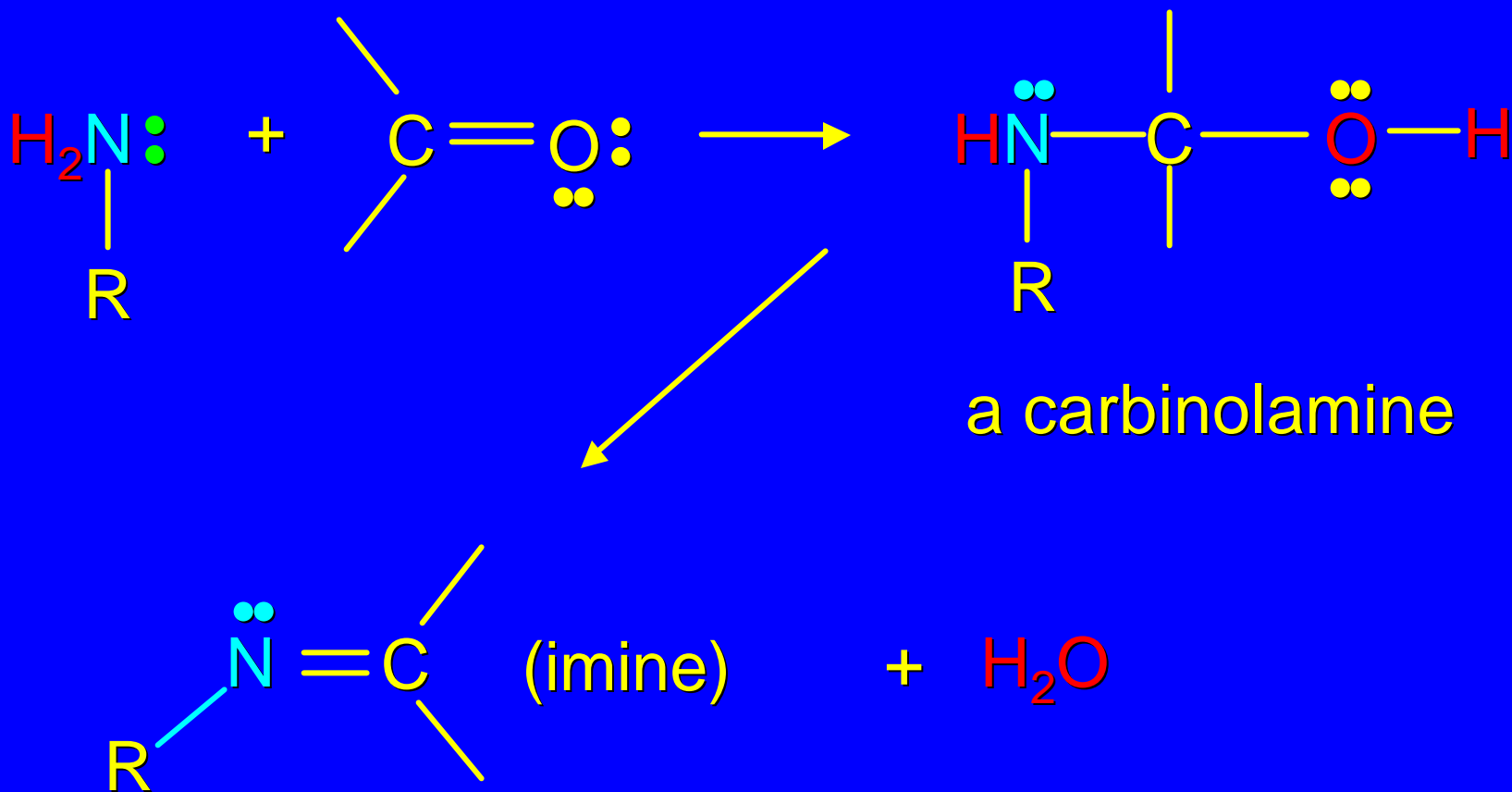
Imine formation

Compounds related to imines

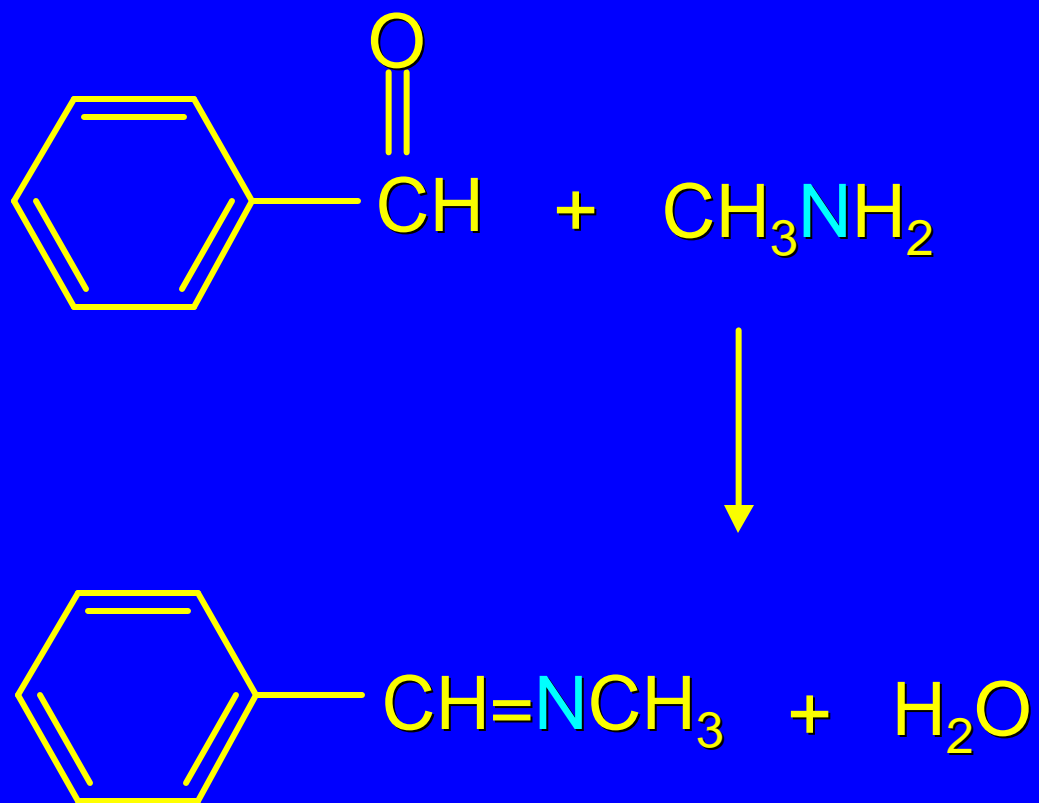
Enamines

The Wittig reaction

Imine (Schiff's Base) Formation

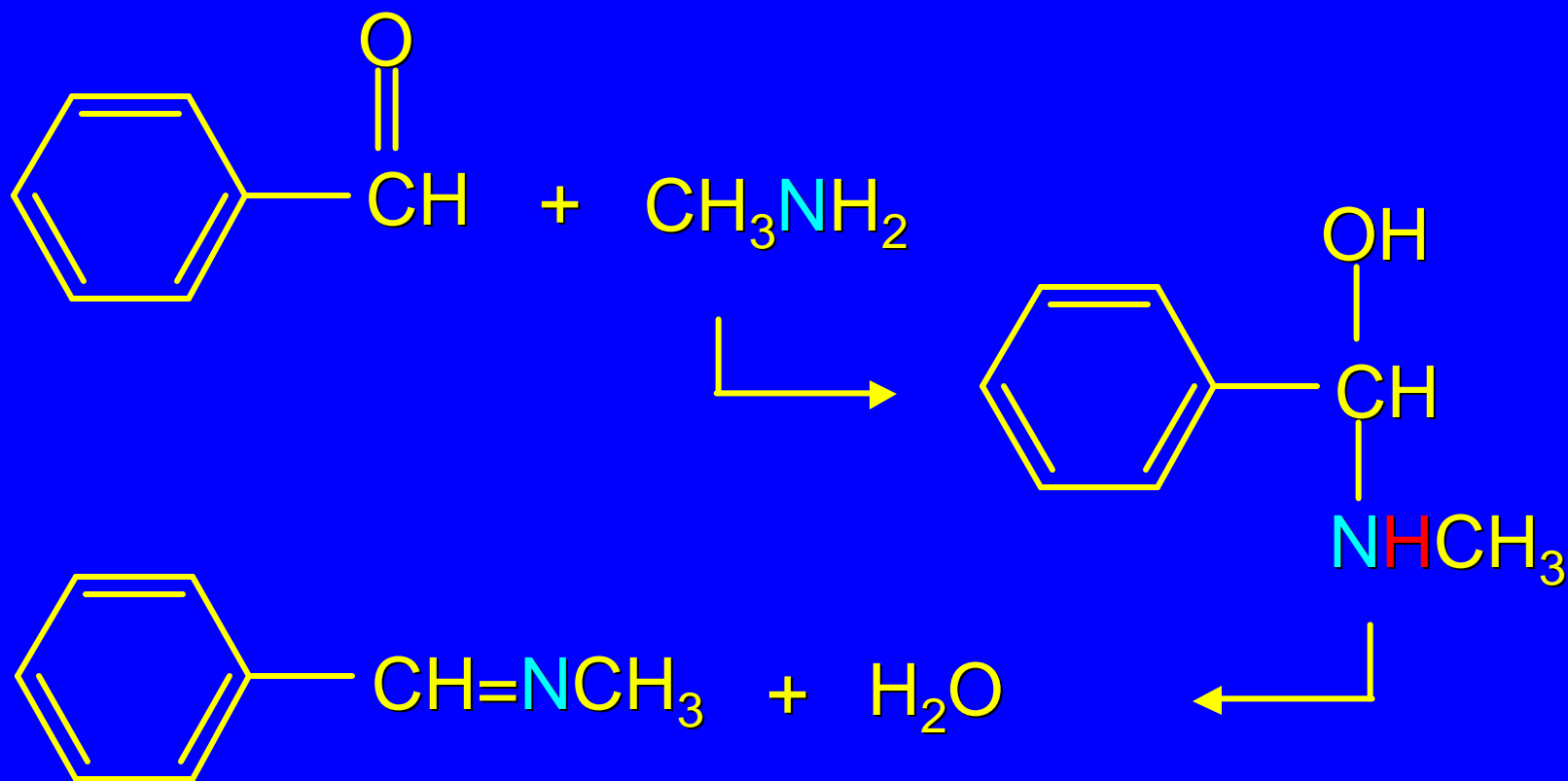


Example



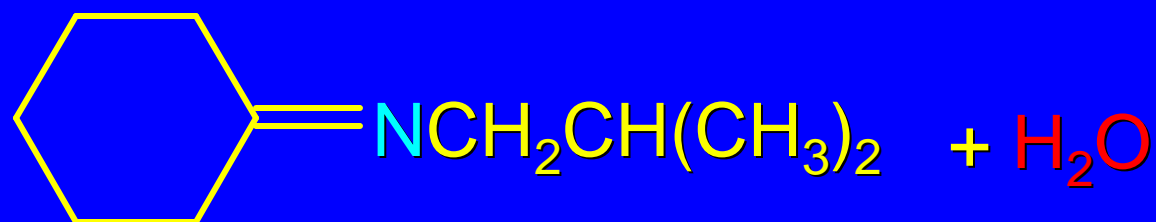
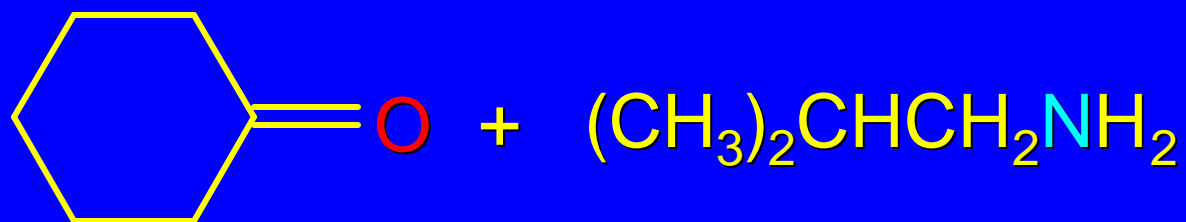
N-Benzylidenemethylamine (70%)

Example



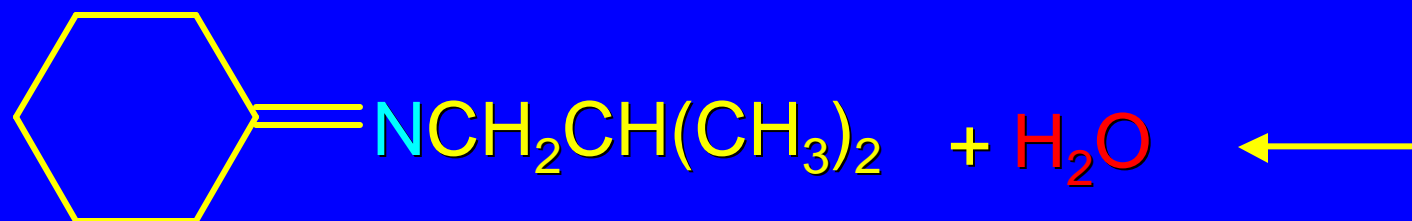
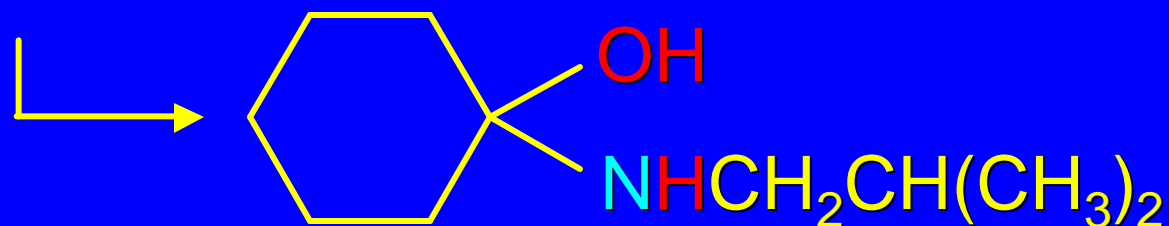
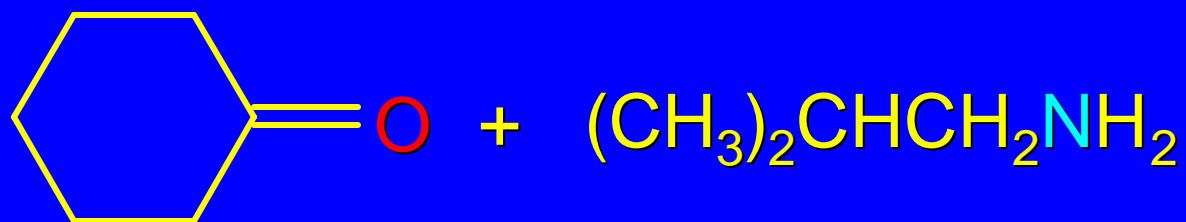
N-Benzylidenemethylamine (70%)

Example



N-Cyclohexylideneisobutylamine
(79%)

Example



N-Cyclohexylideneisobutylamine
(79%)

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Reaction with Derivatives of Ammonia



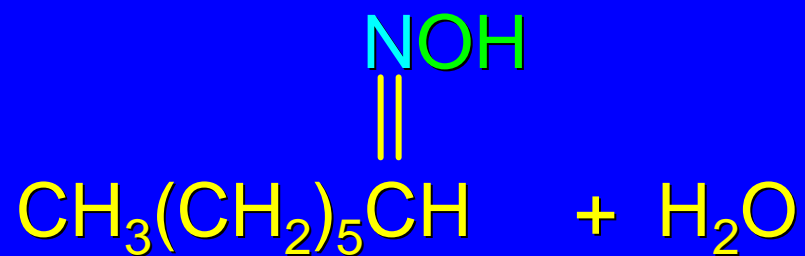
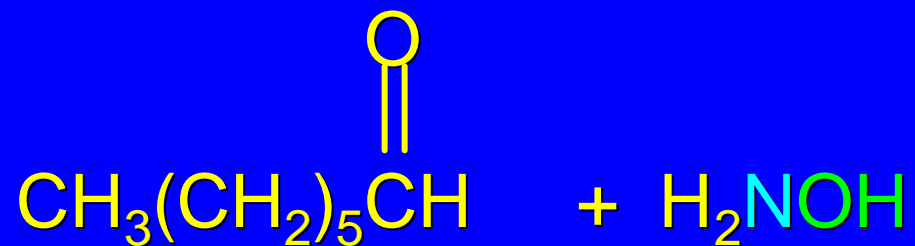
Reaction with Derivatives of Ammonia



hydroxylamine

oxime

Example



(81-93%)

Reaction with Derivatives of Ammonia



hydroxylamine

oxime

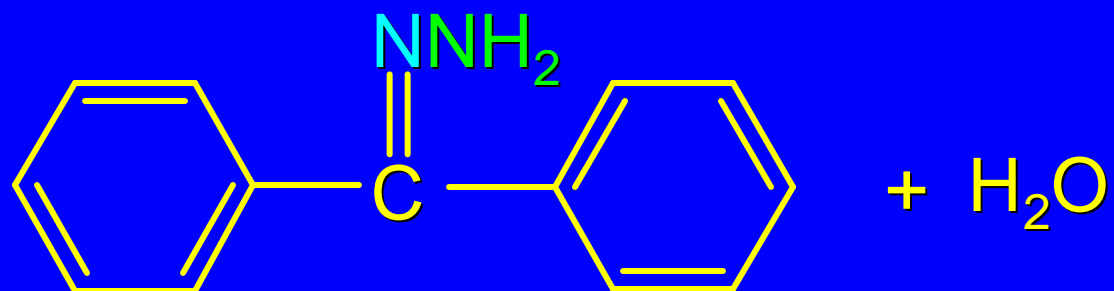
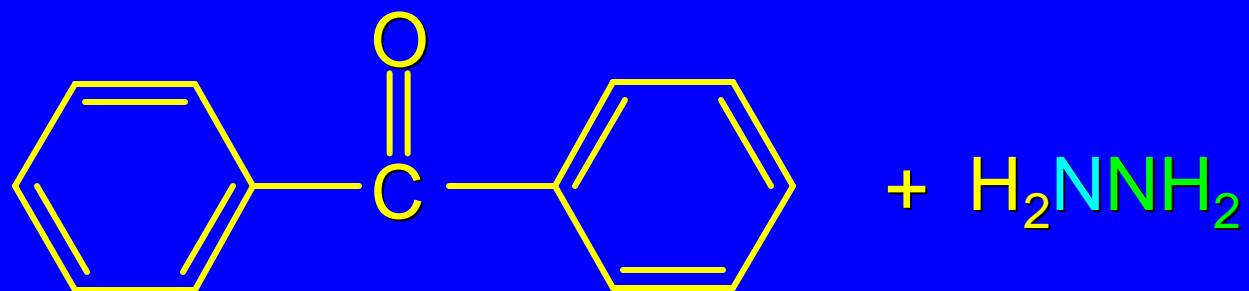


hydrazine

hydrazone

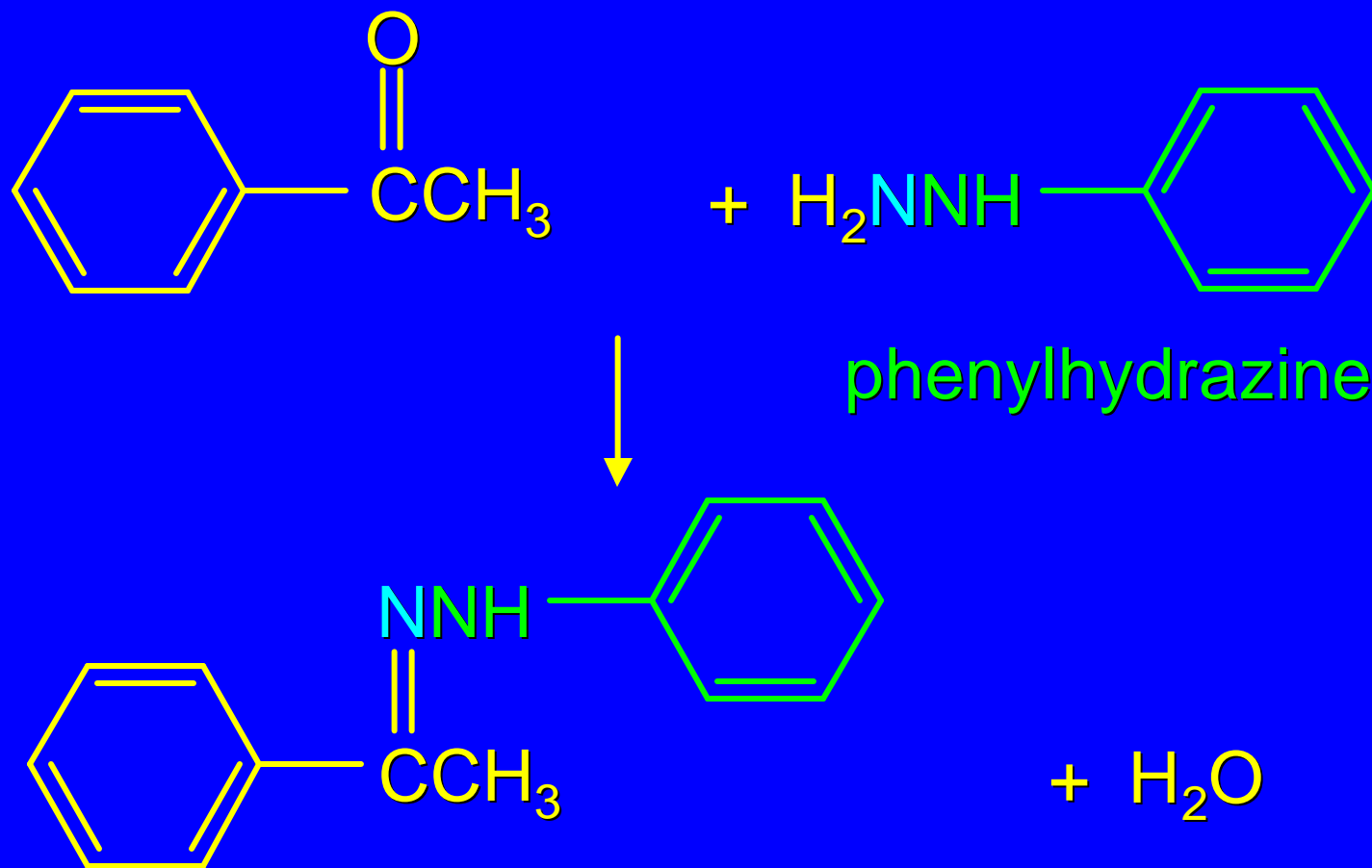
etc.

Example



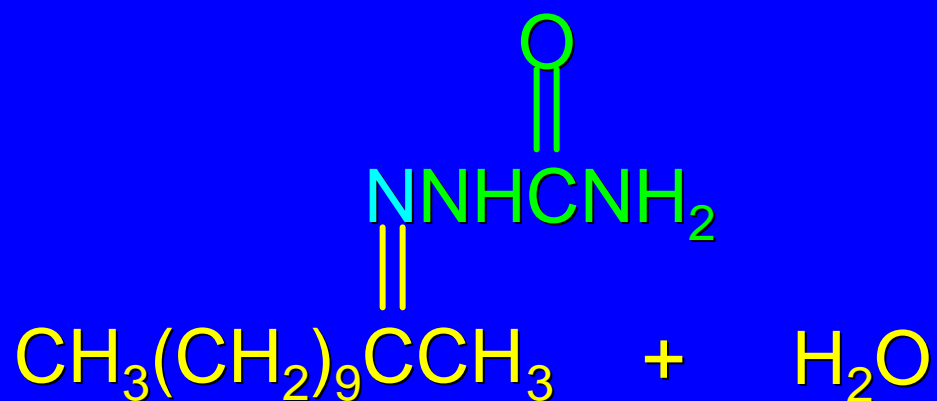
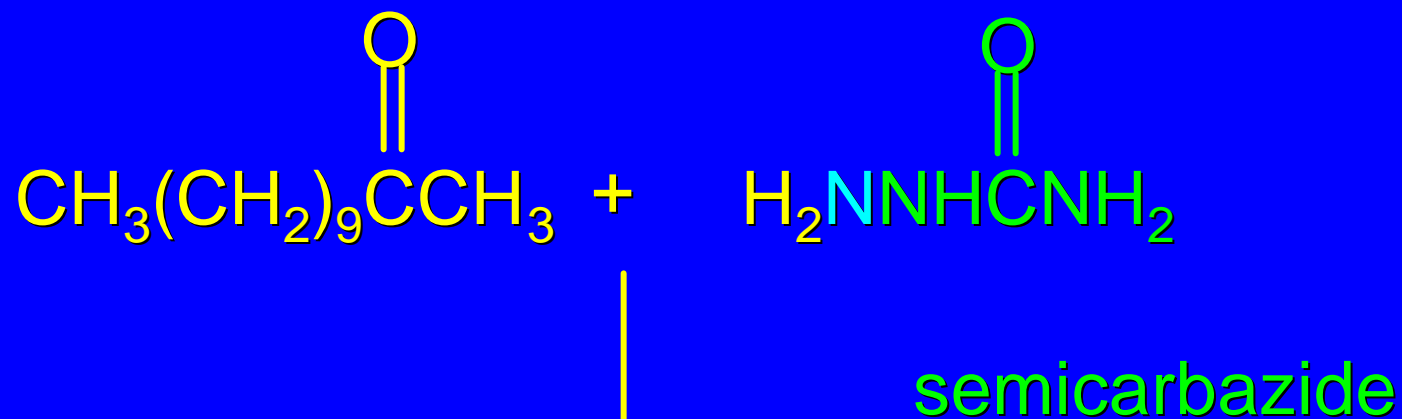
(73%)

Example



a phenylhydrazone (87-91%)

Example



a semicarbazone (93%)

17.11

Reaction with Secondary Amines:
Enamines

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Acetal formation

Imine formation

Compounds related to imines

Enamines

The Wittig reaction

Some reactions of aldehydes and ketones progress beyond the nucleophilic addition stage

Acetal formation

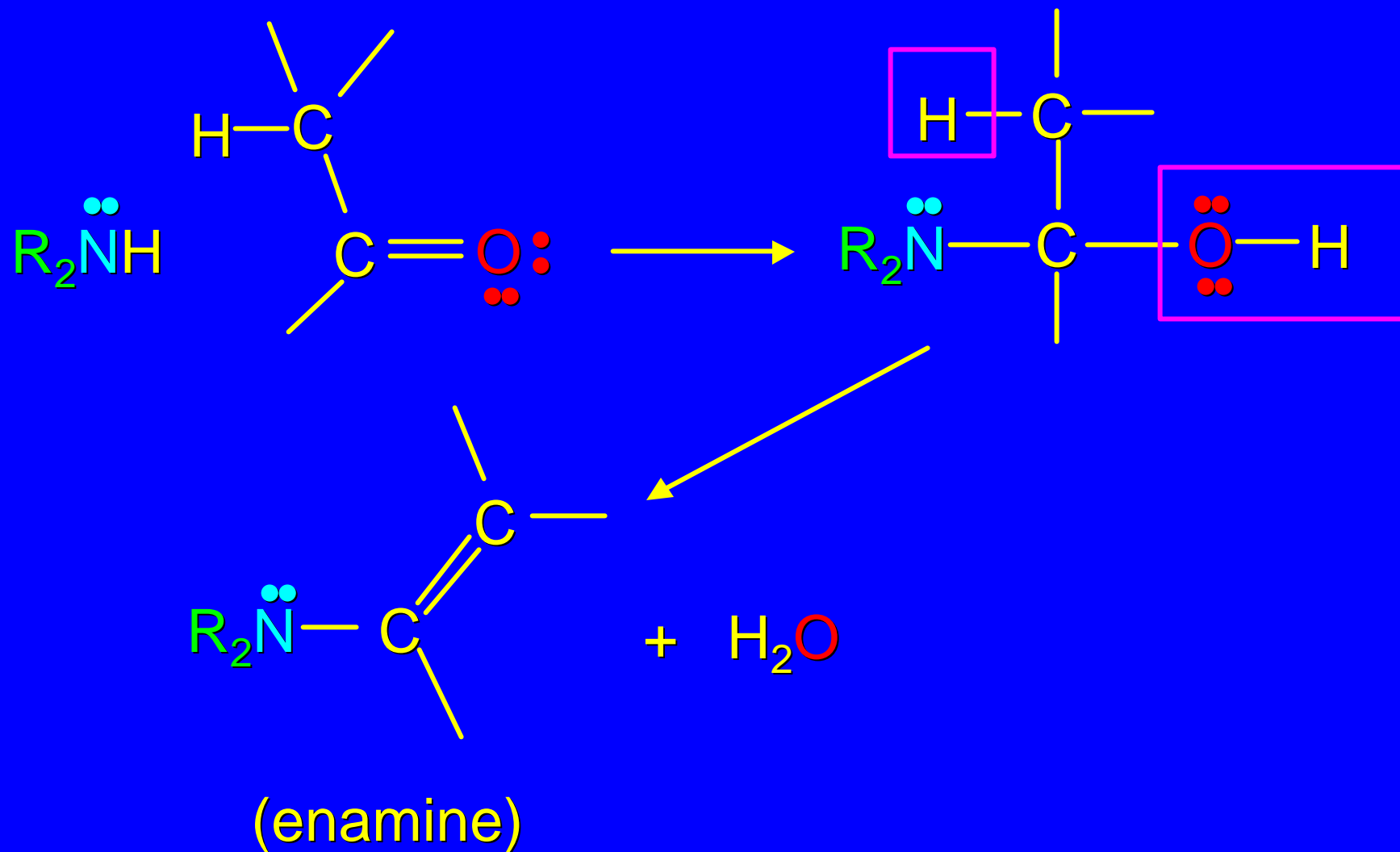
Imine formation

Compounds related to imines

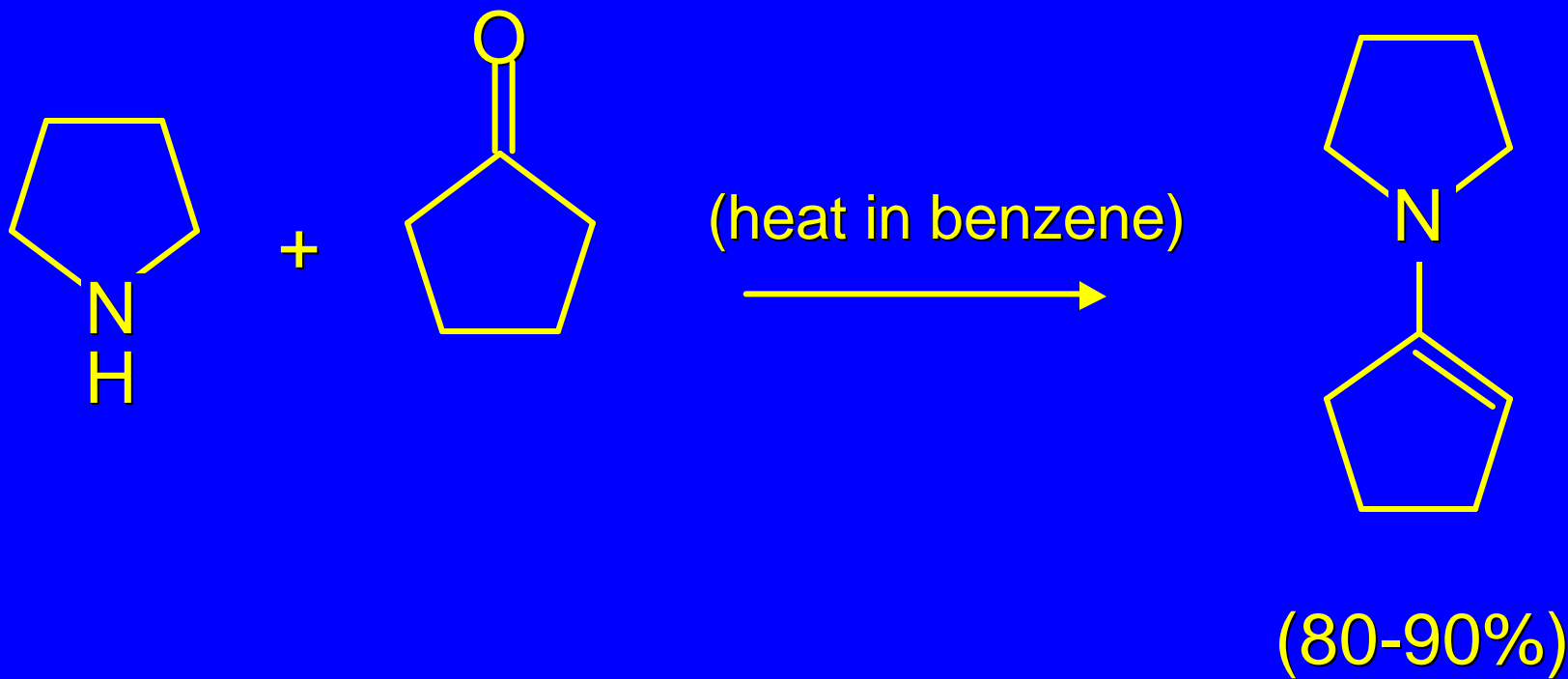
Enamines

The Wittig reaction

Enamine Formation



Example



Example

