



Preparing Esters using Acid Anhydrides

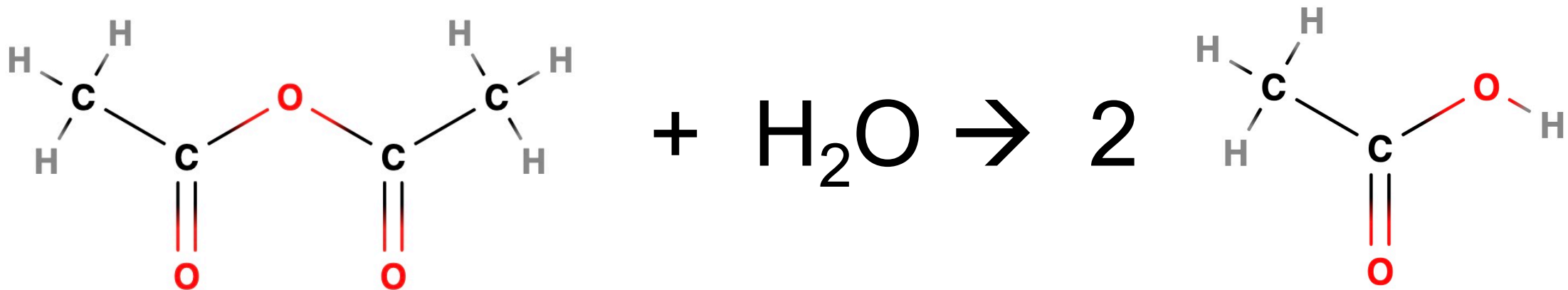
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Acid anhydrides in ester formation

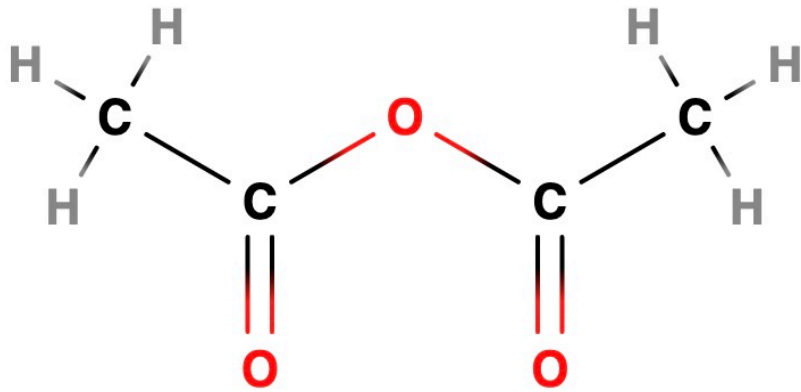
None reversible reaction.

Acid anhydrides will react with phenols to form esters.

Completed under dry conditions – no water! Otherwise the acid anhydride reacts to form the acid.

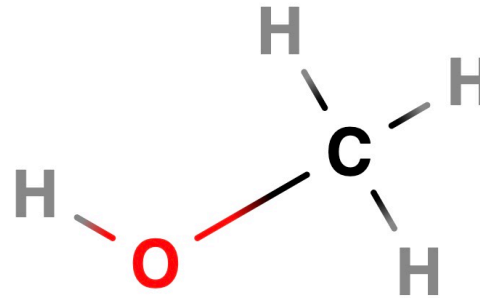


Acid anhydrides in ester formation



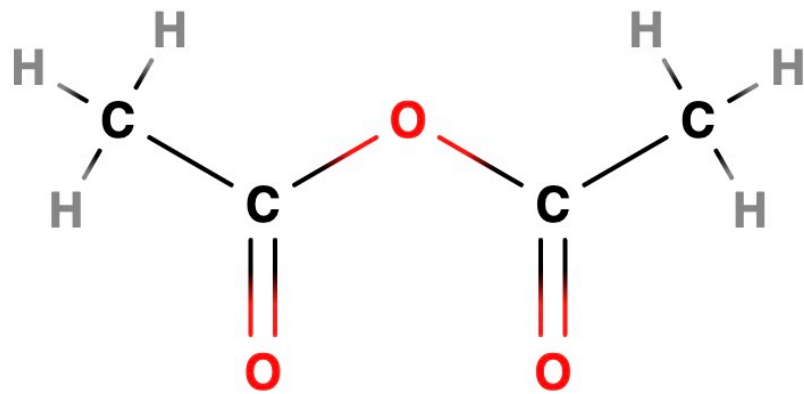
Ethanoic anhydride

+



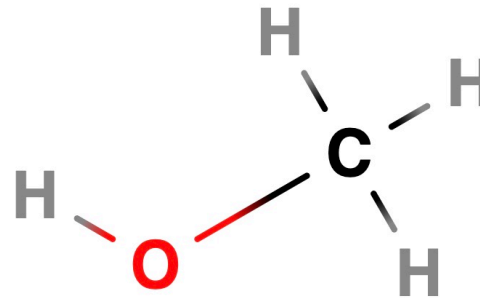
Methanol

Acid anhydrides in ester formation

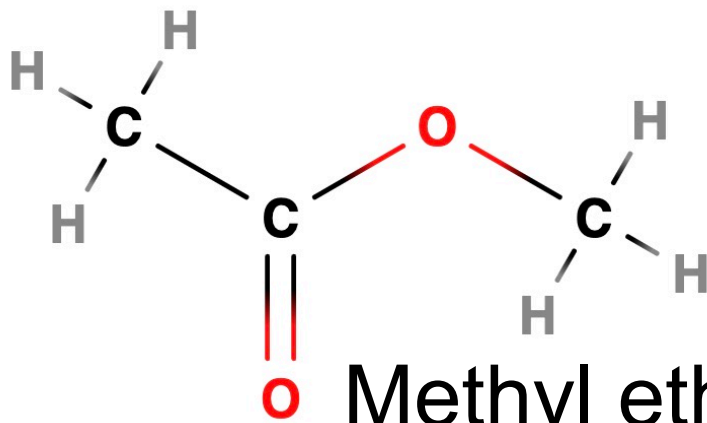


Ethanoic anhydride

+

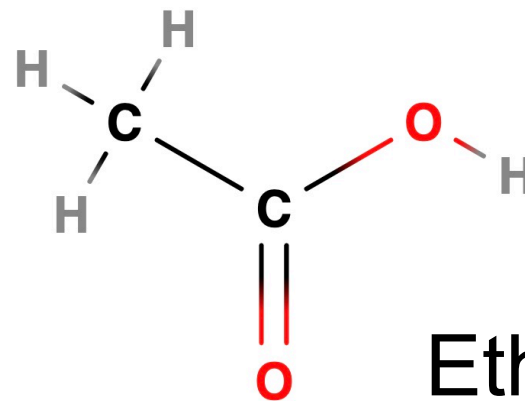


Methanol



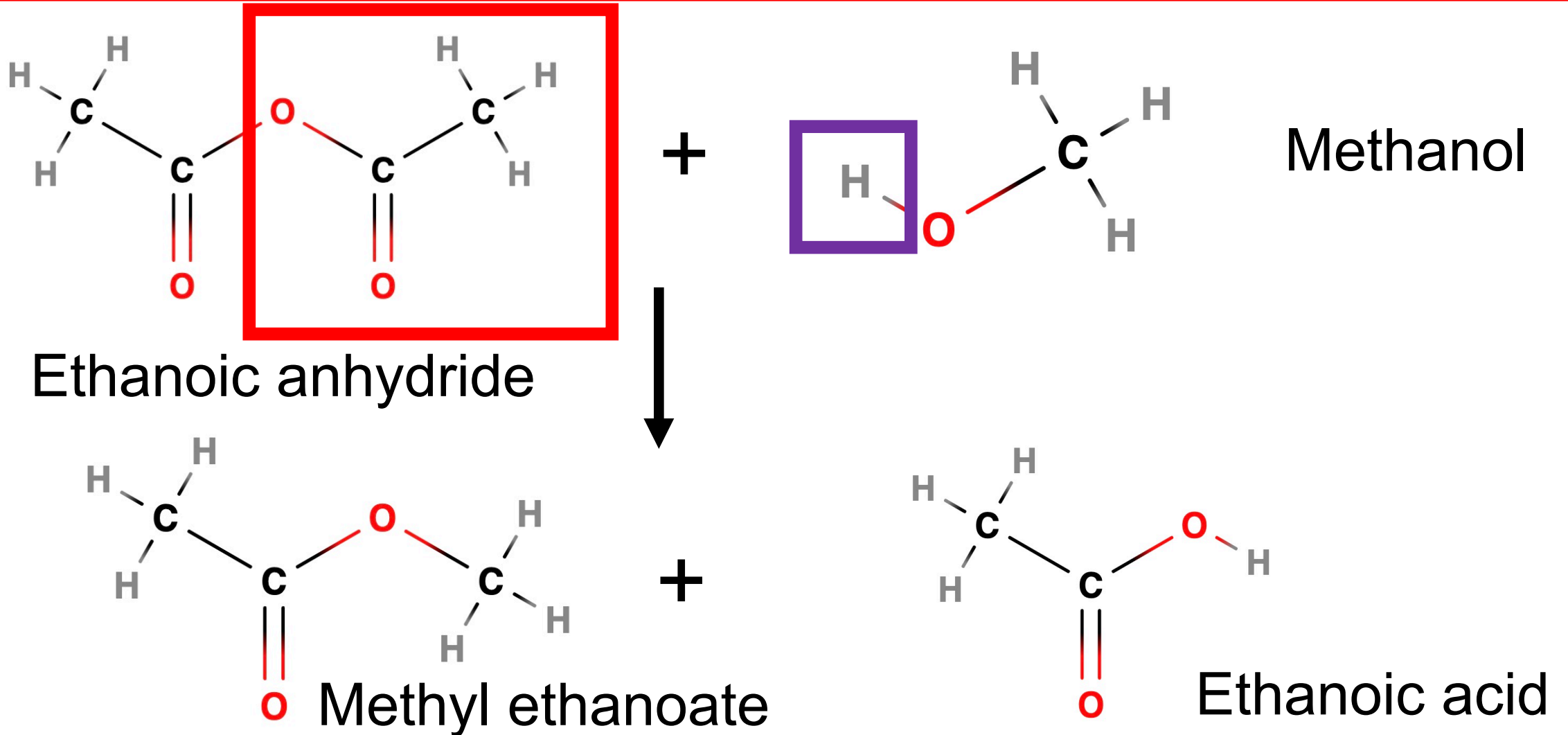
Methyl ethanoate

+

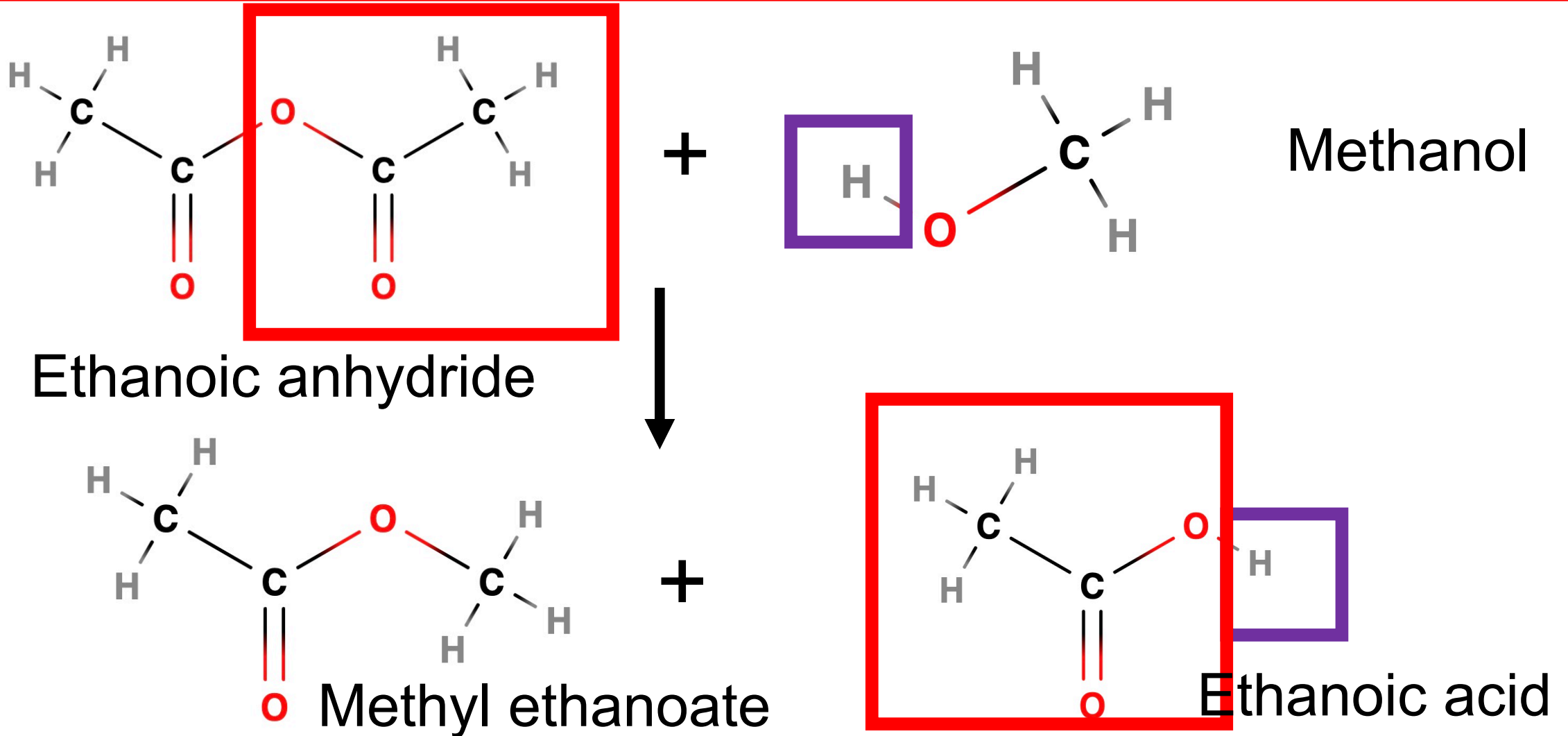


Ethanoic acid

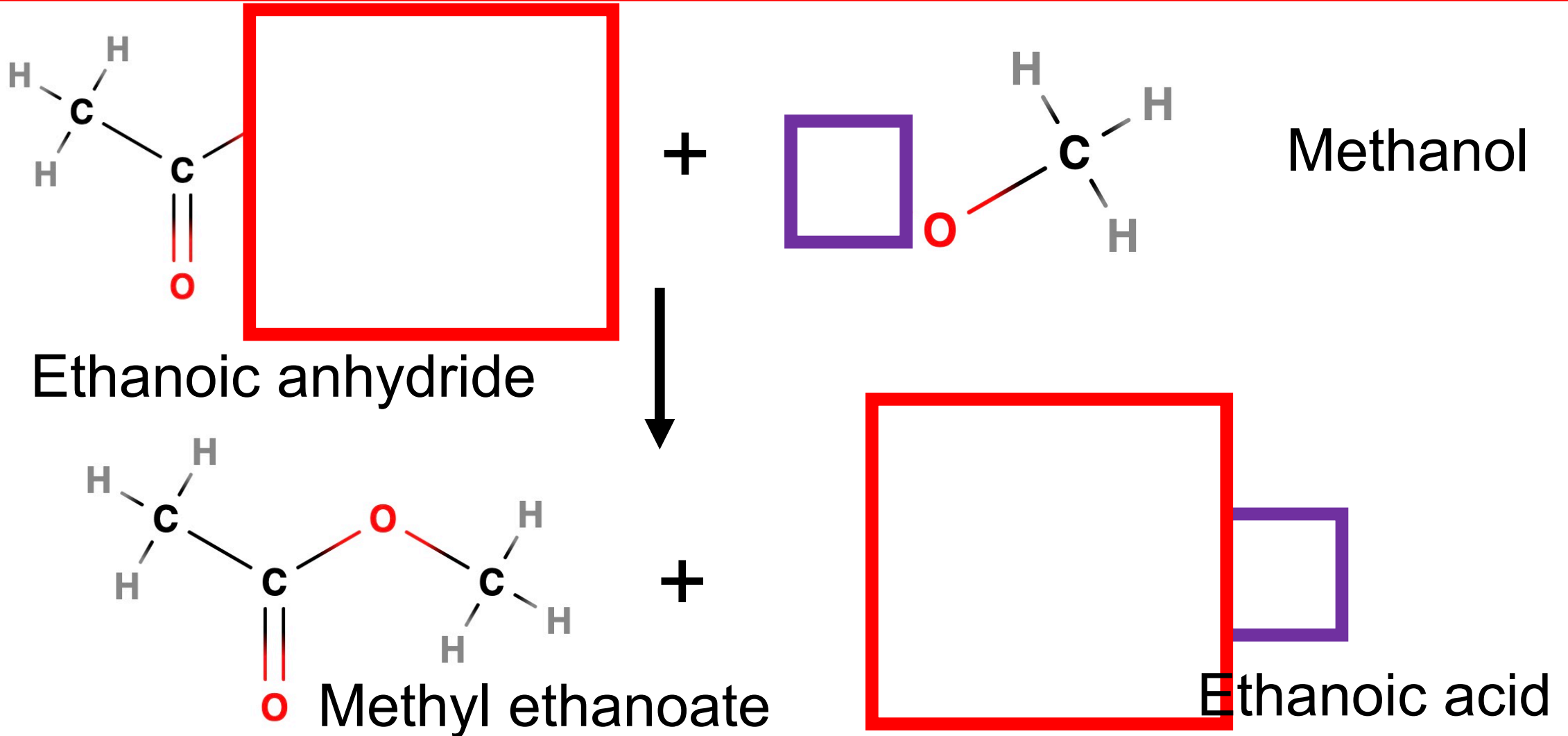
Acid anhydrides in ester formation



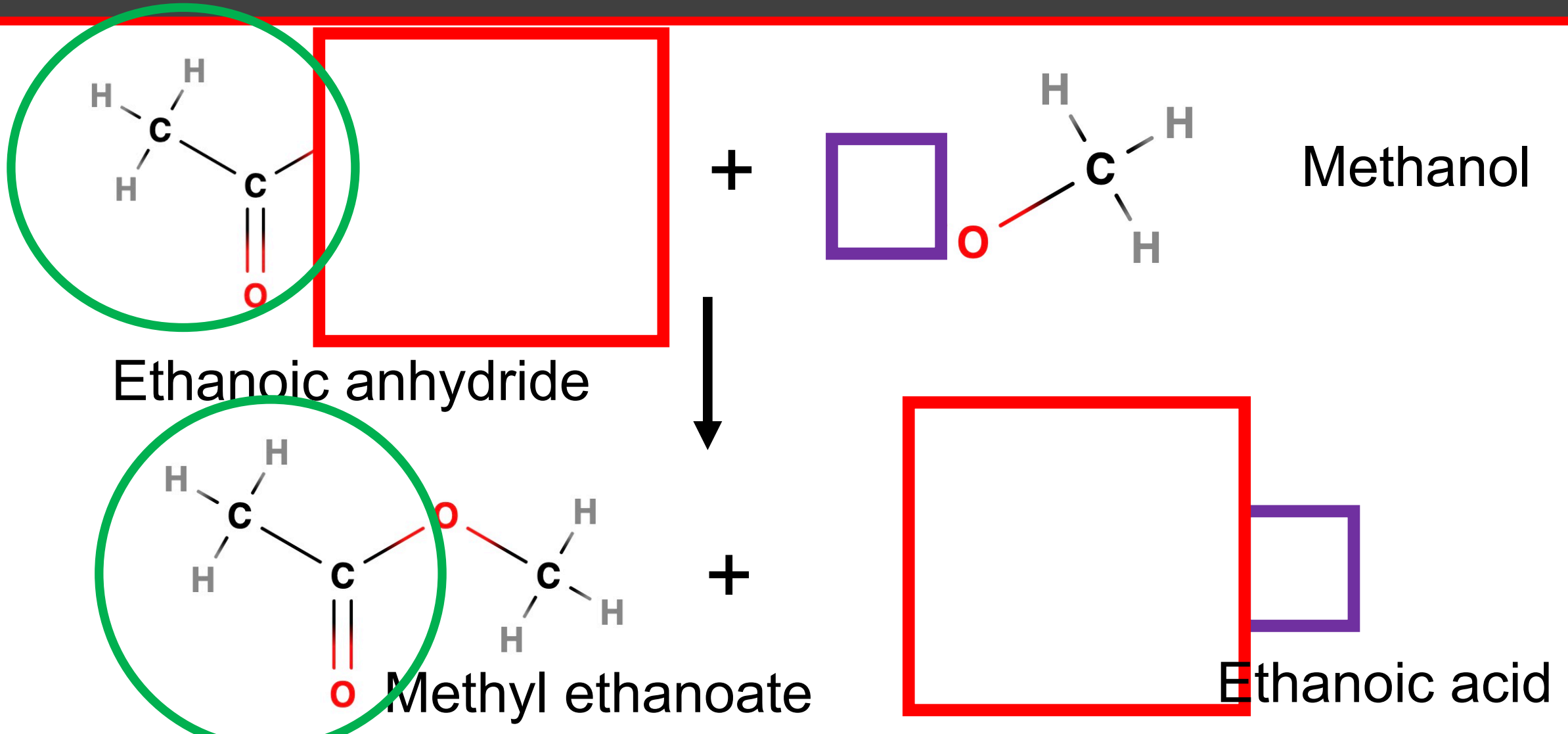
Acid anhydrides in ester formation



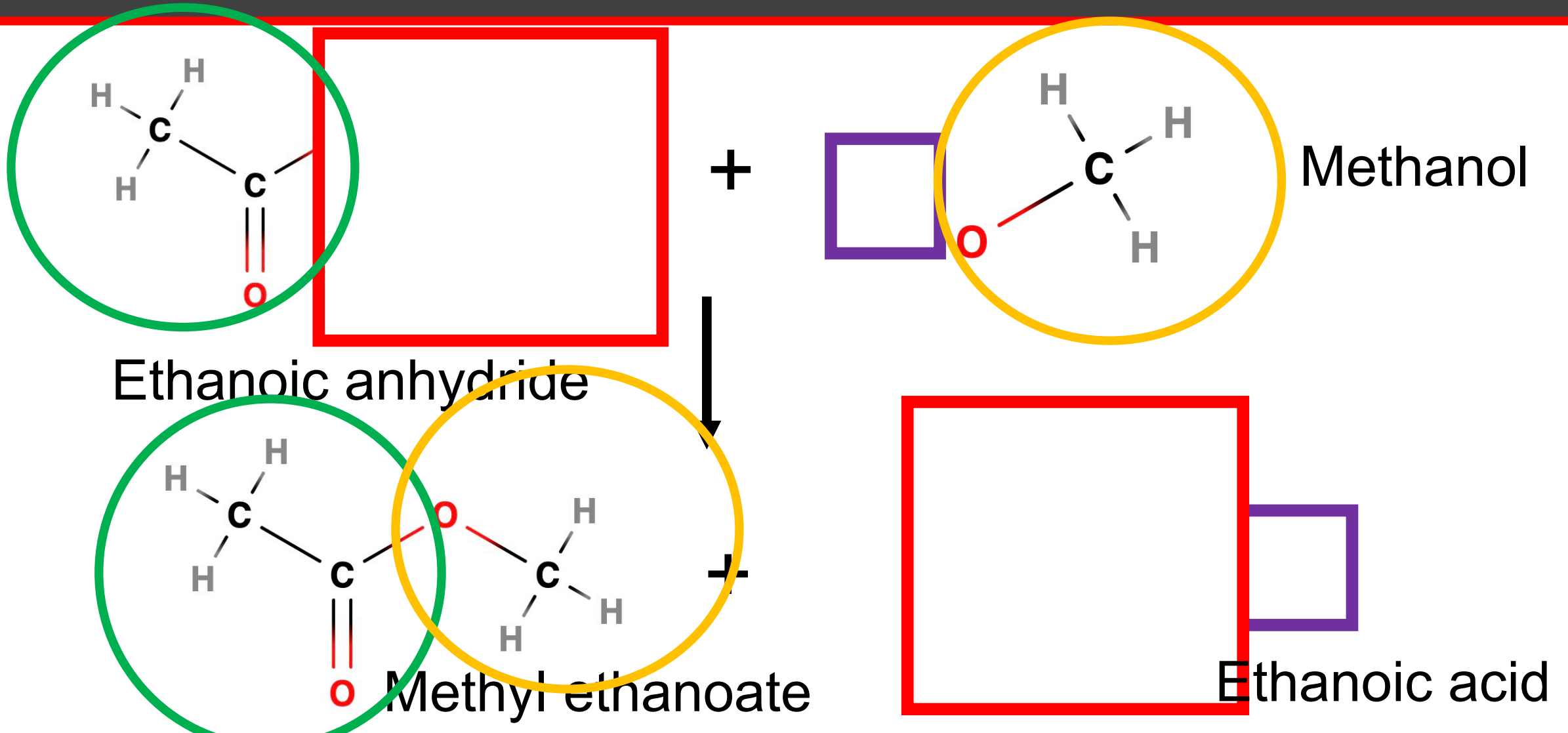
Acid anhydrides in ester formation



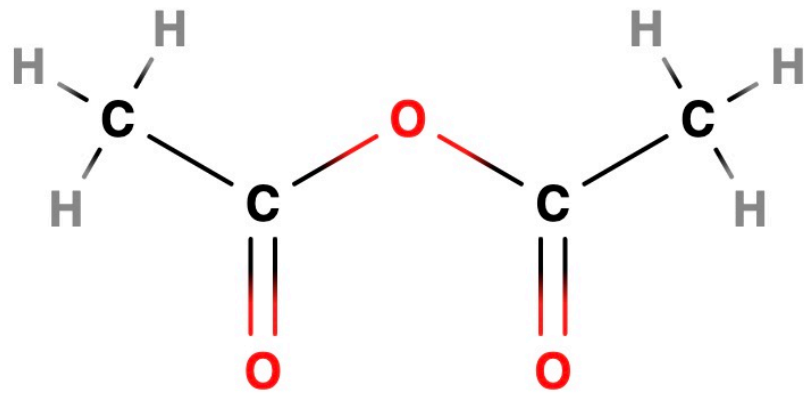
Acid anhydrides in ester formation



Acid anhydrides in ester formation

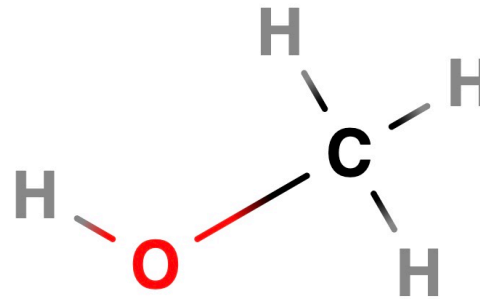


Acid anhydrides in ester formation

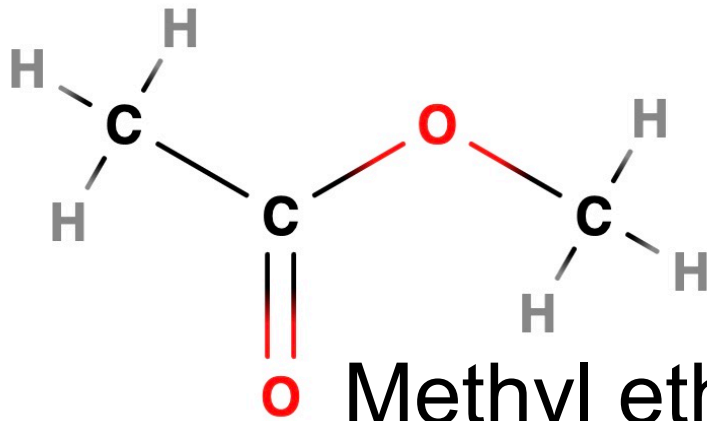


Ethanoic anhydride

+

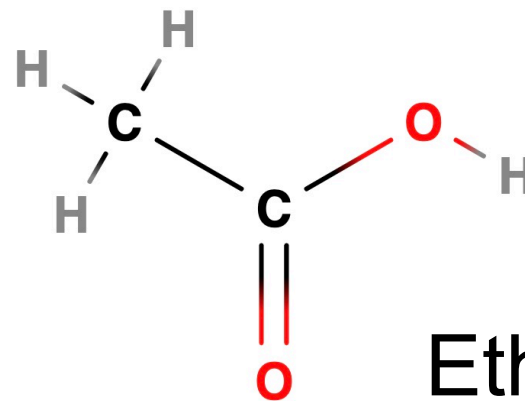


Methanol



Methyl ethanoate

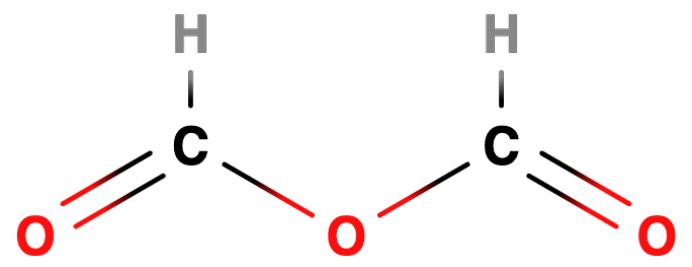
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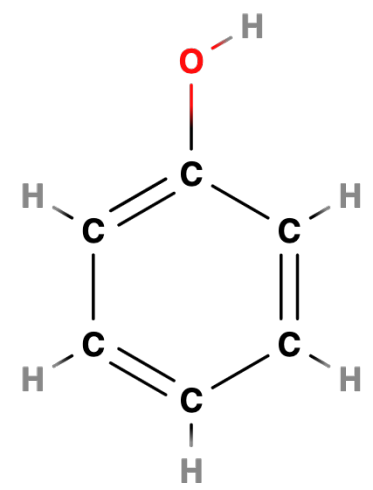
Ethanoic acid

Reaction with phenol

Methanoic
anhydride



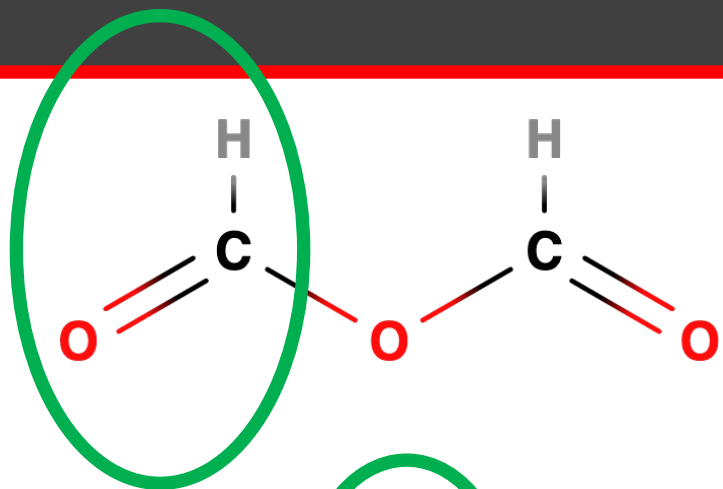
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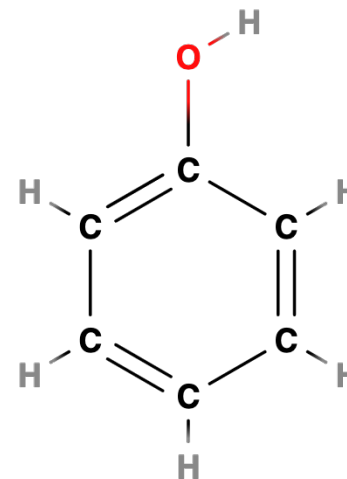
Phenol

Reaction with phenol

Methanoic anhydride



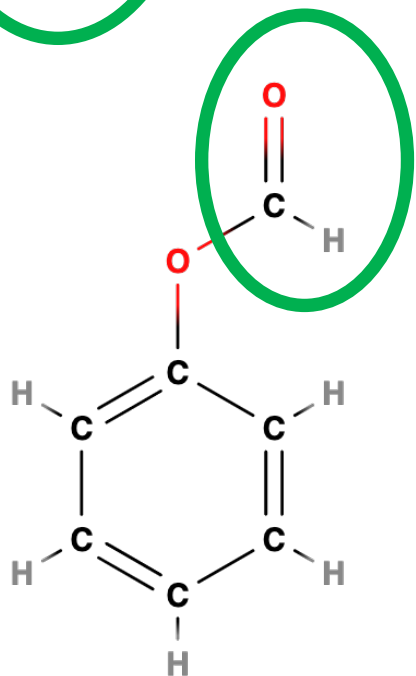
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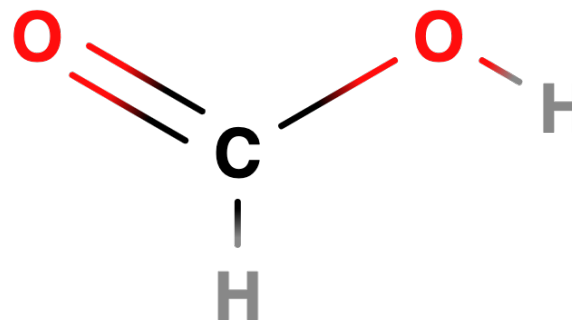
Phenol



Phenyl methanoate



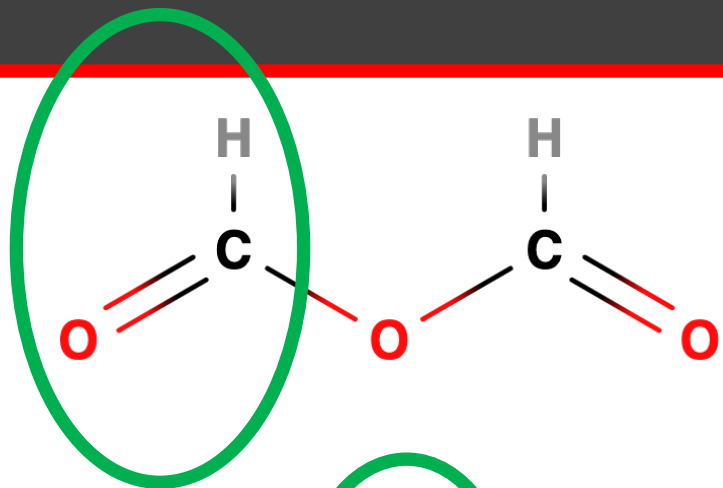
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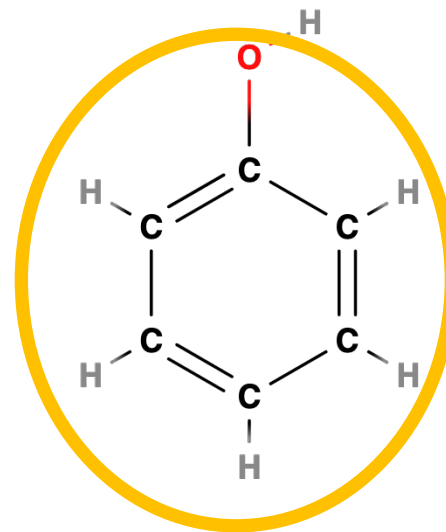
Methanol

Reaction with phenol

Methanoic anhydride



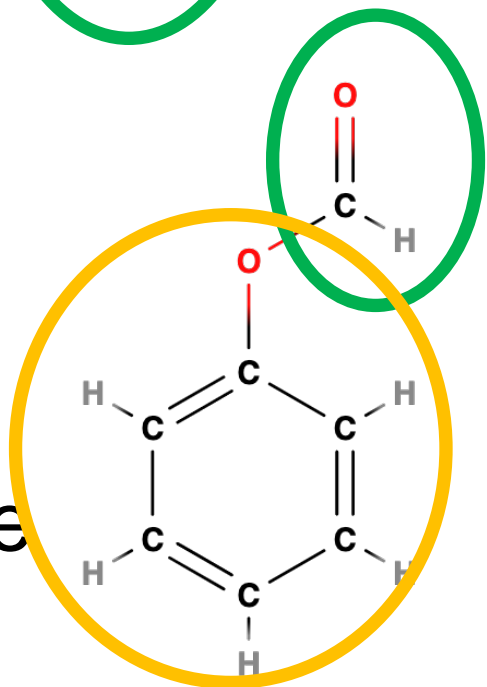
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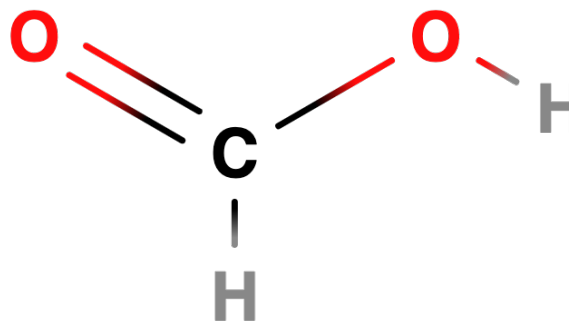
Phenol



Phenyl methanoate



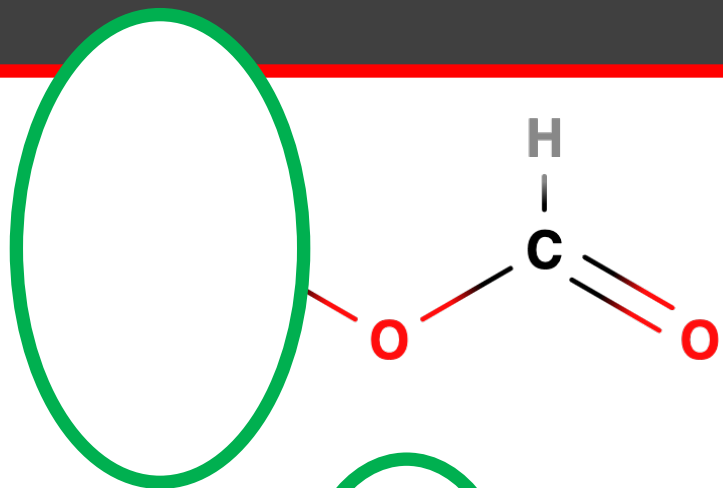
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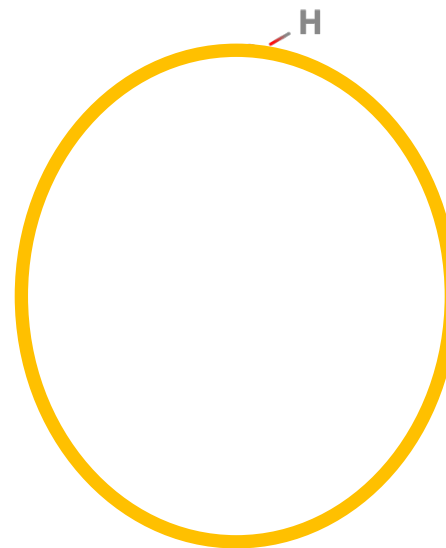
Methanol

Reaction with phenol

Methanoic anhydride



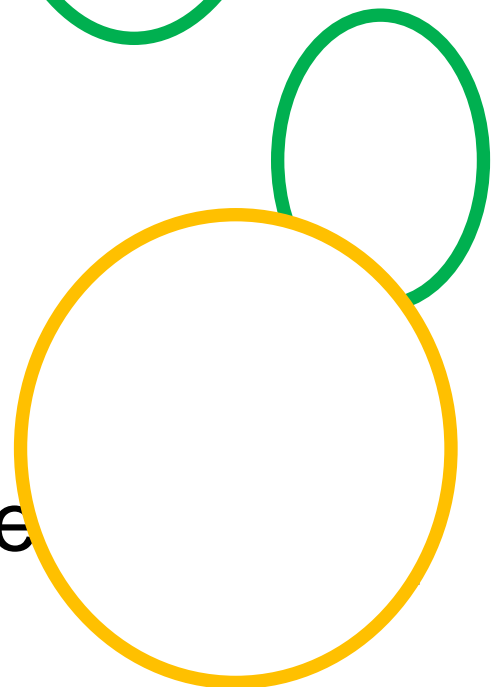
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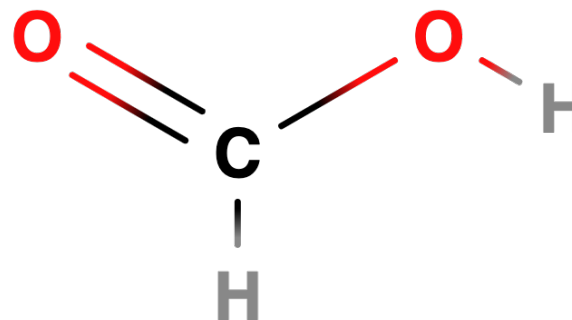
Phenol



Phenyl methanoate



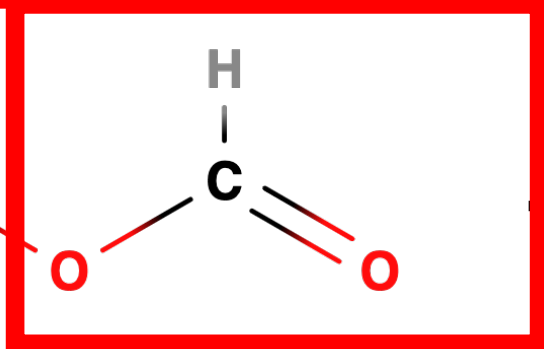
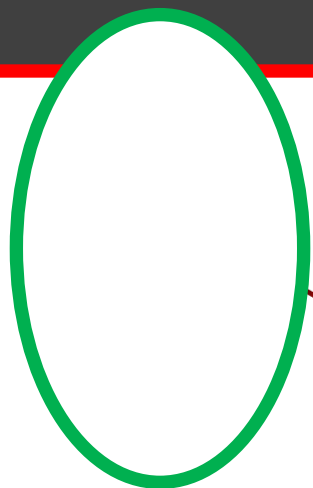
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Methanol

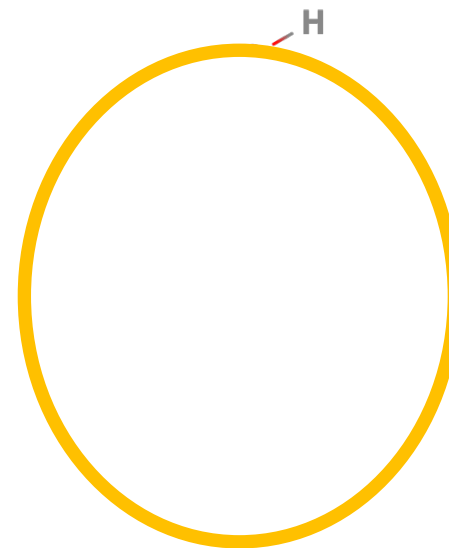
Reaction with phenol

Methanoic anhydride

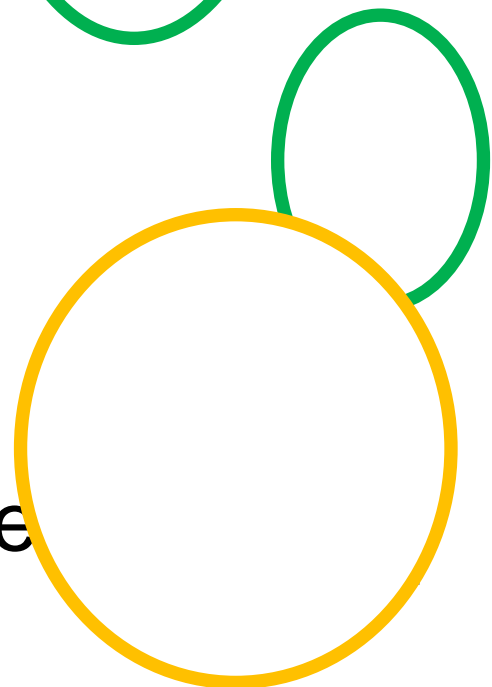


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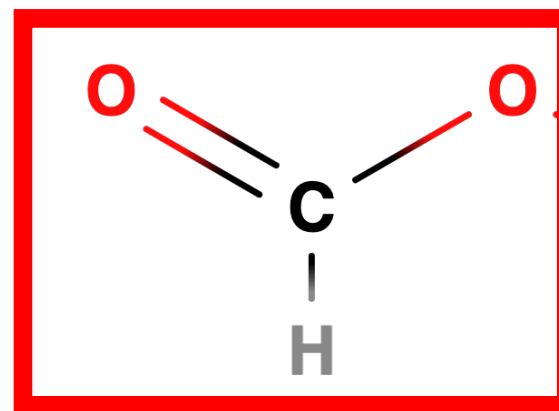
Phenol



Phenyl methanoate



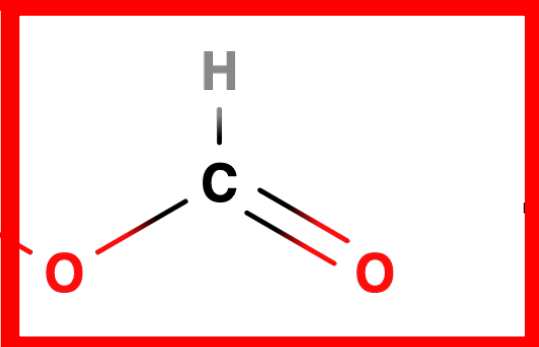
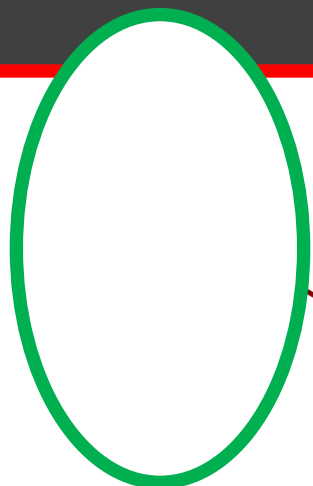
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Methanol

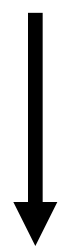
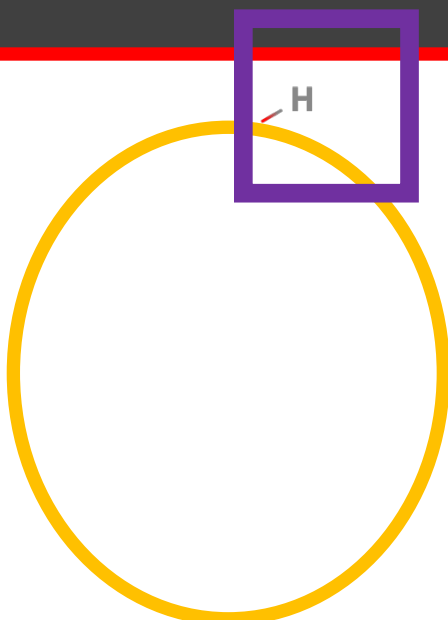
Reaction with phenol

Methanoic anhydride

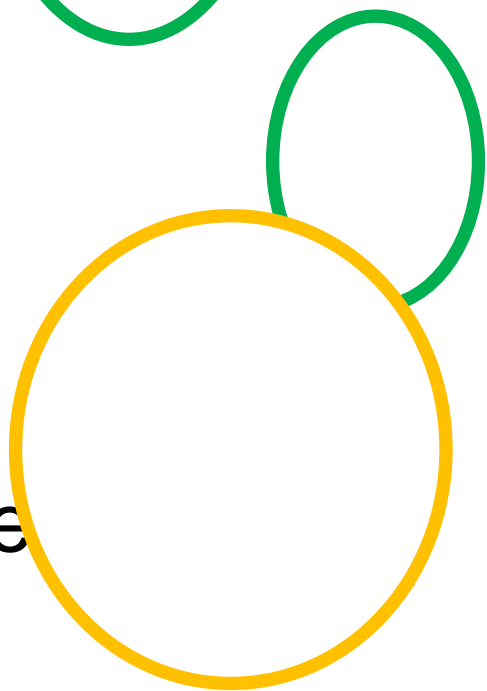


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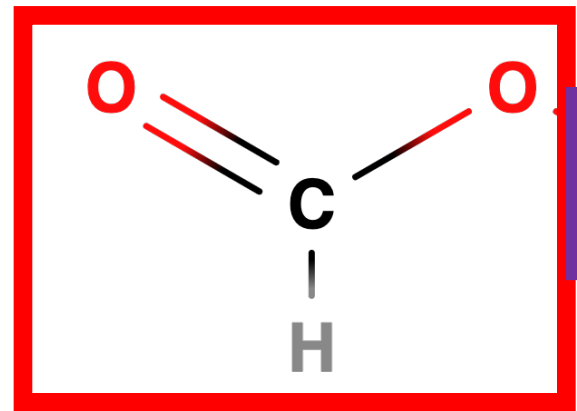
Phenol



Phenyl methanoate



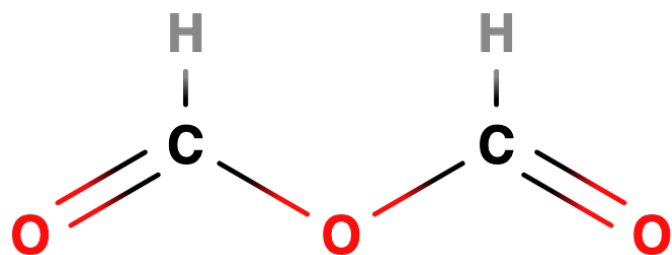
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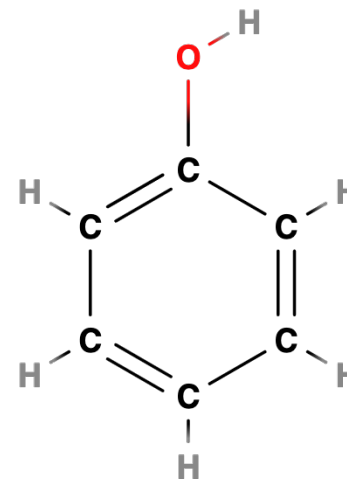
Methanol

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Methanoic anhydride



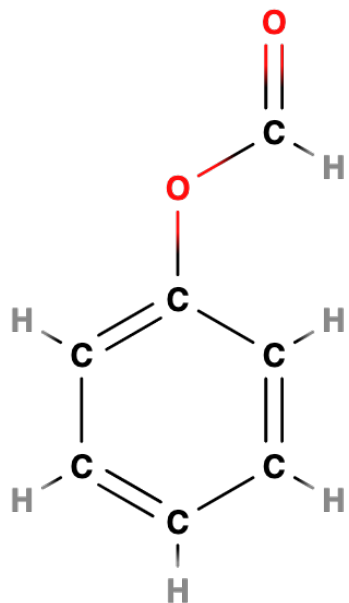
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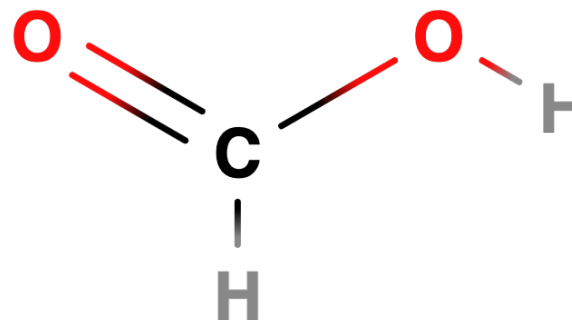
Phenol



Phenyl methanoate



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Methanol