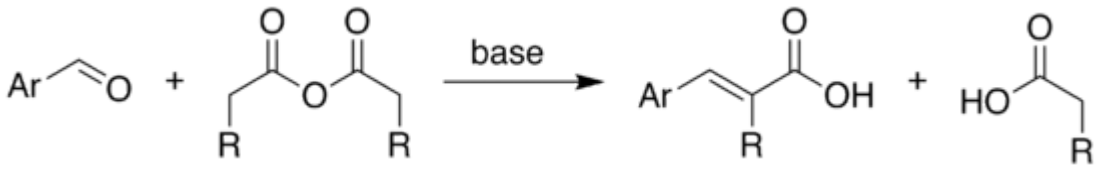
Perkin reaction

The **Perkin reaction** is an organic reaction developed by English chemist William Henry Perkin that is used to make cinnamic acids. It gives an α,β-unsaturated aromatic acid by the aldol condensation of an aromatic aldehyde and an acid anhydride, in the presence of an alkali salt of the acid.[1][2] The alkali salt acts as a base catalyst, and other bases can be used instead.[3]

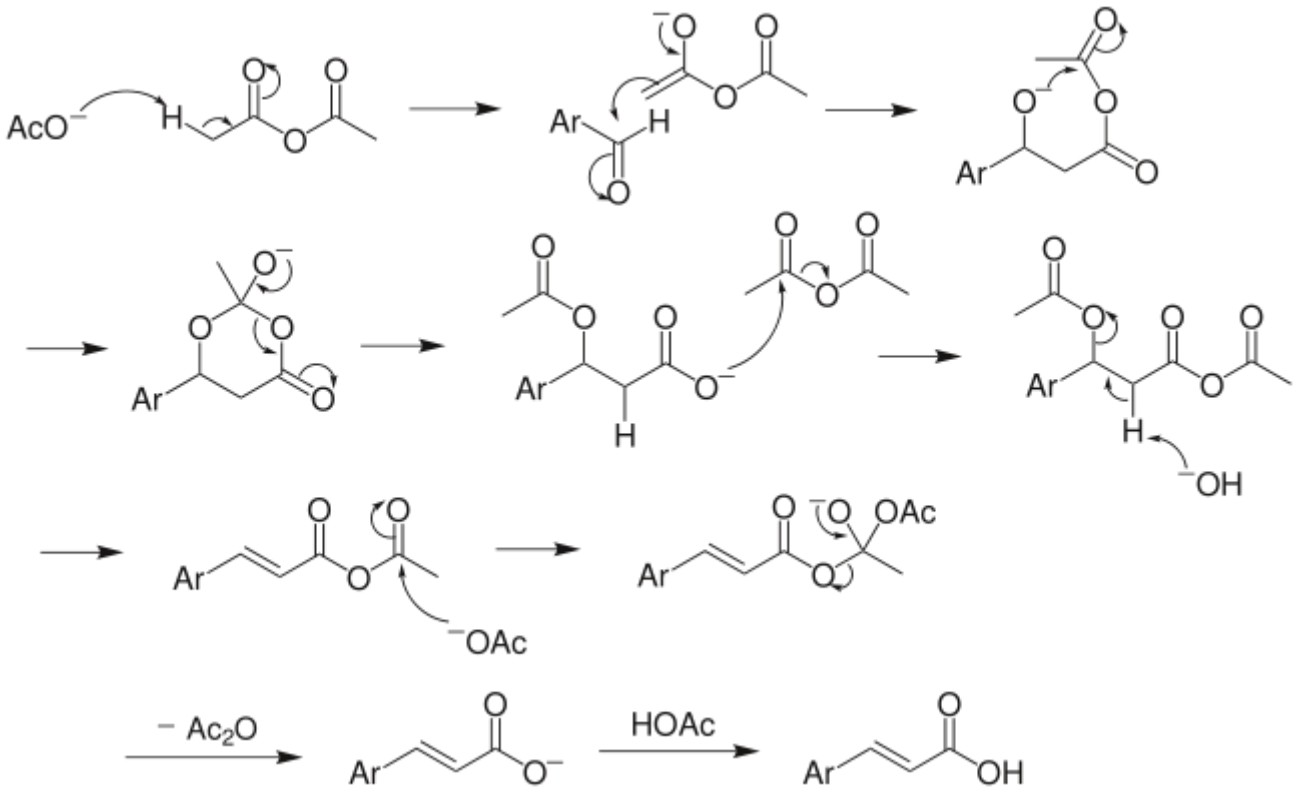
Perkin reaction	
Named after	William Henry Perkin
Reaction type	Condensation reaction
Reaction	
Aromatic aldehyde + **Aliphatic Acid anhydride** + Alkali salt of the acid ↓ **Cinnamic acid derivatives**	
Identifiers	
RSC ontology ID	RXNO:0000003 ✓
✓(what is this?) (verify) (https://en.wikipedia.org/w/index.php?&diff=cur&oldid=342064841)	



Several reviews have been written.[4][5][6]

Contents

Reaction mechanism



The above mechanism is not universally accepted, as several other versions exist, including decarboxylation without acetic group transfer.[7]

Applications

- One notable application for the Perkin reaction is in the laboratory synthesis of the phytoestrogenic stilbene resveratrol (c.f. fo-ti).[8]

See also

- Erlenmeyer–Plöchl azlactone and amino-acid synthesis
- Stobbe condensation
- Pechmann condensation

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