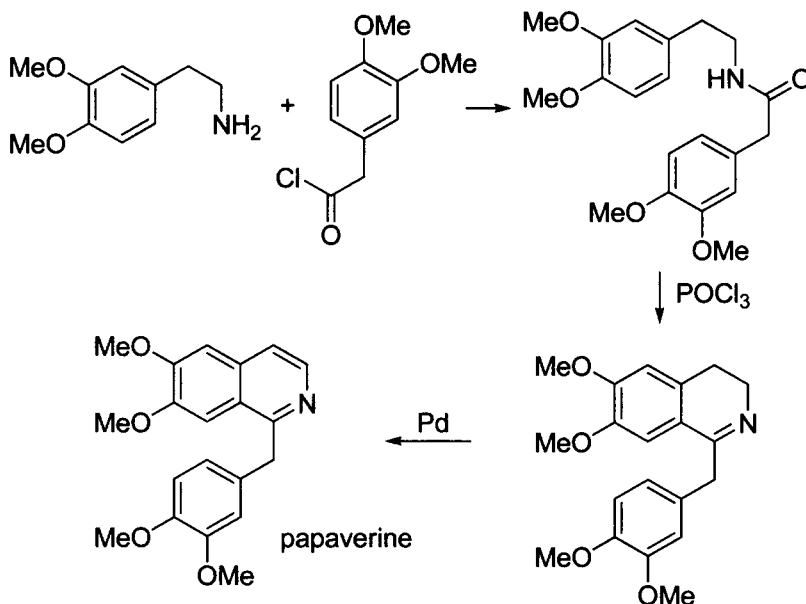


tetrahydro-isoquinolinoline core. This preference was found to be enhanced by the use of superacids as catalysts.



The Pictet–Spengler reaction is frequently used for the synthesis of pharmacophore isoquinoline core in the last century. Several examples well illustrate its efficiency. Papaverine is the best-known drug that incorporates the isoquinoline nucleus. This natural product that accompanies the opioids in various *papaver* species, exhibits muscle-relaxing properties and has been used as a spasmolytic drug and a vasodilator to improve cerebral blood circulation. The first synthesis of this drug was based on a Pictet–Spengler reaction of homoveratrylamine with homoveratroyl chloride to give the corresponding amide. Treatment with strong Lewis acid formed isoquinoline, which after aromatization afforded papaverine.¹²⁰

In another example, variation in one of the starting components by using the carboxylic salt of α -epoxide in reaction with β -phenethylamine (dopamine) under the Pictet–Spengler conditions was used for the synthesis of trimethoquinol. This compound is one of a small group of compounds devoid of an aminoalcohol moiety that acts as a β -adrenergic agonist investigated as a potent bronchodilator.¹²¹