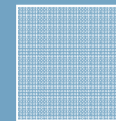




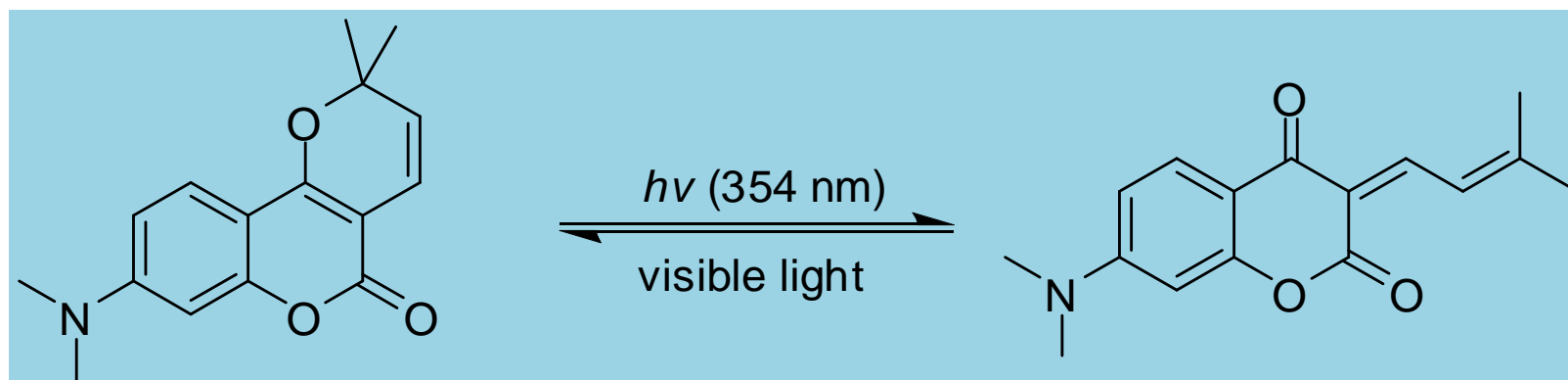
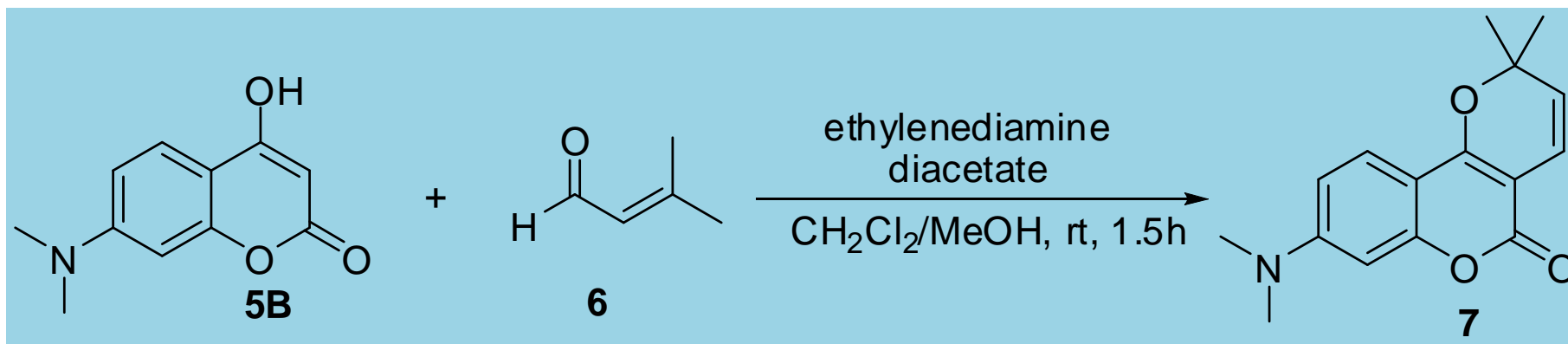
有機光致變色材料

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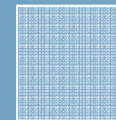


實驗方程式

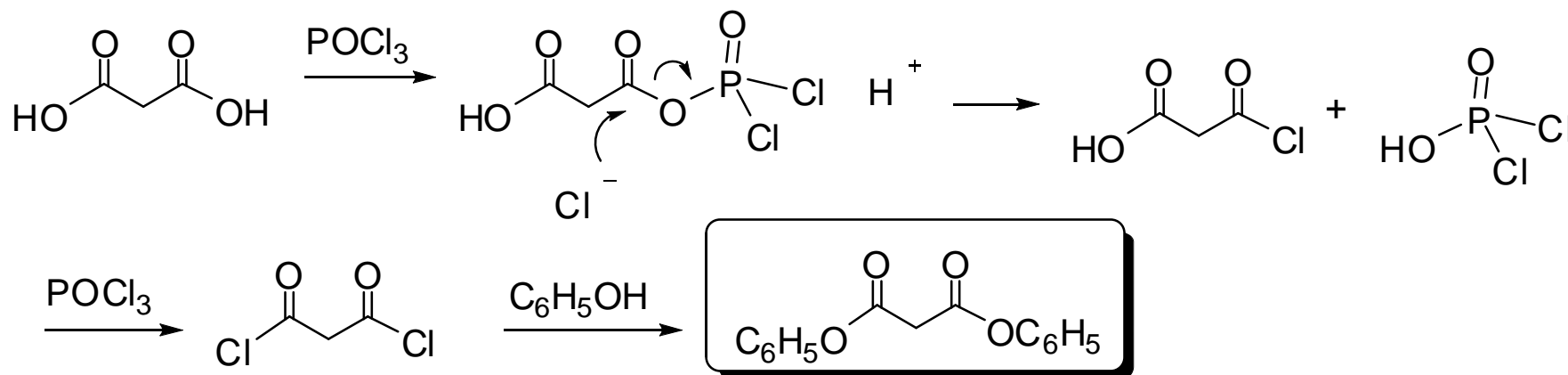


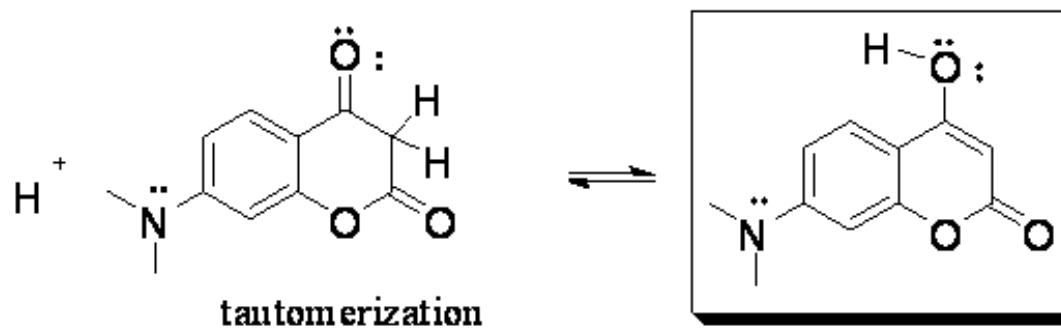
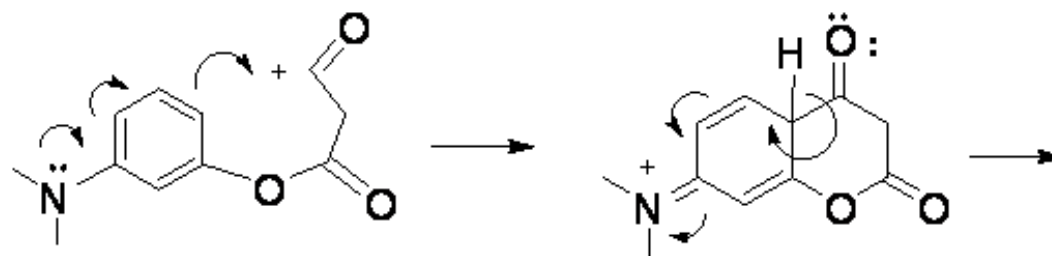
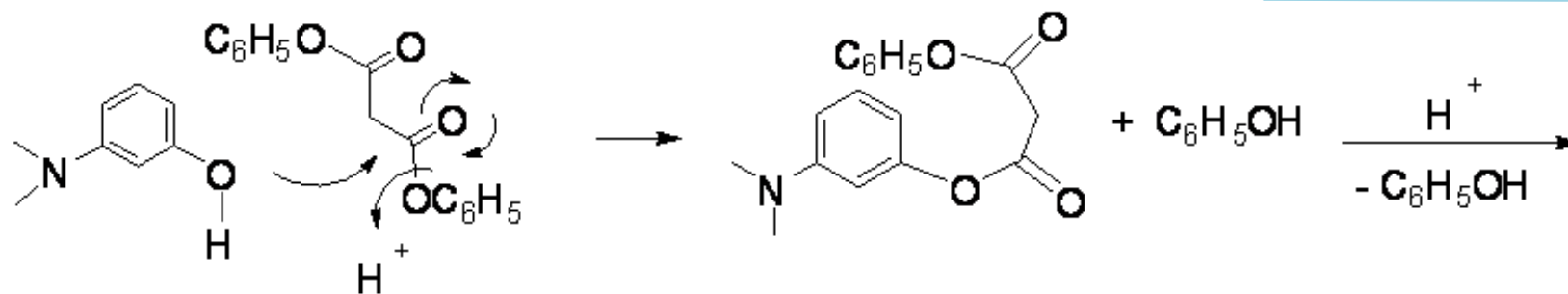
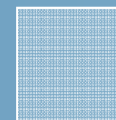
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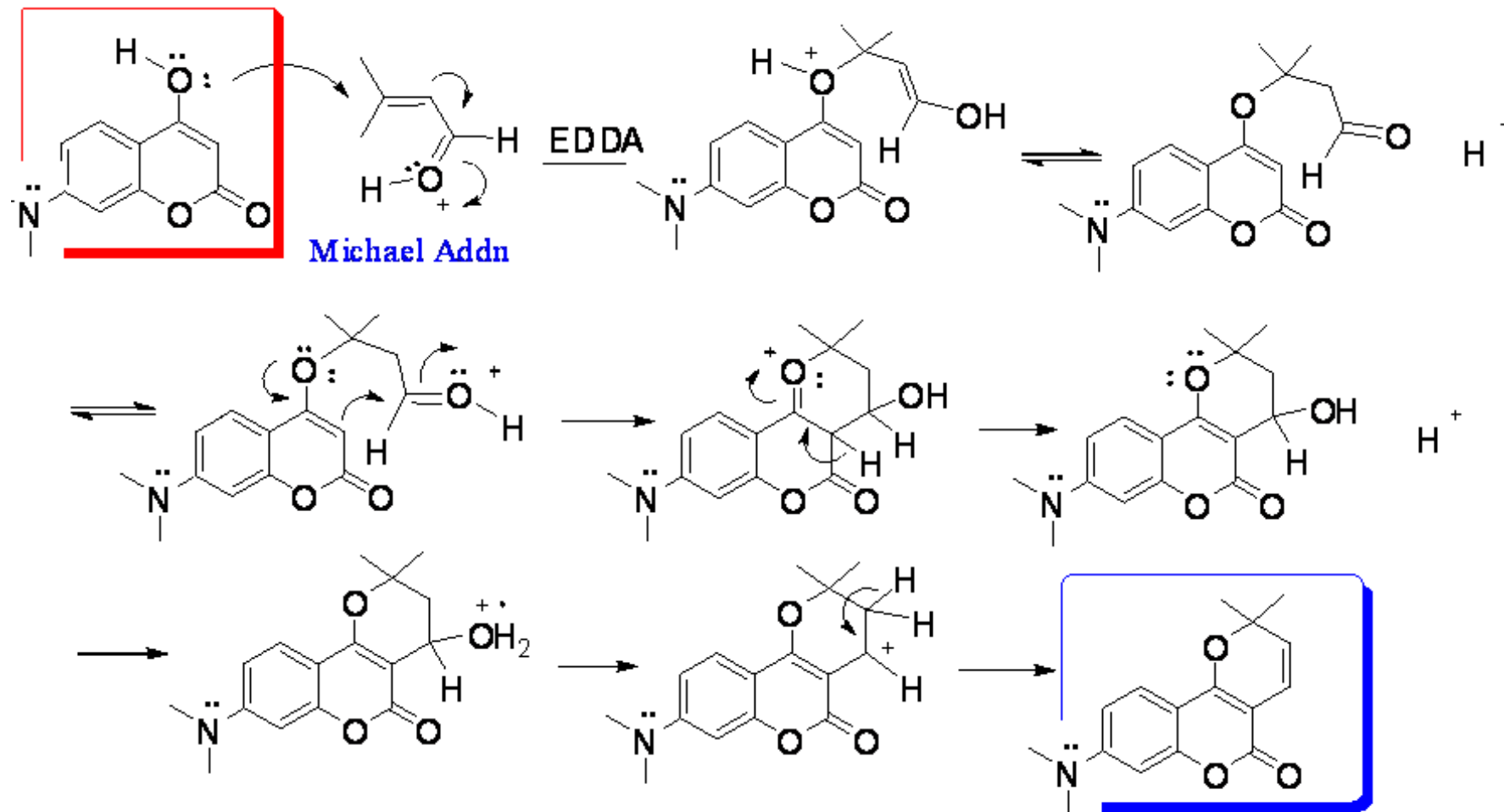
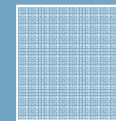
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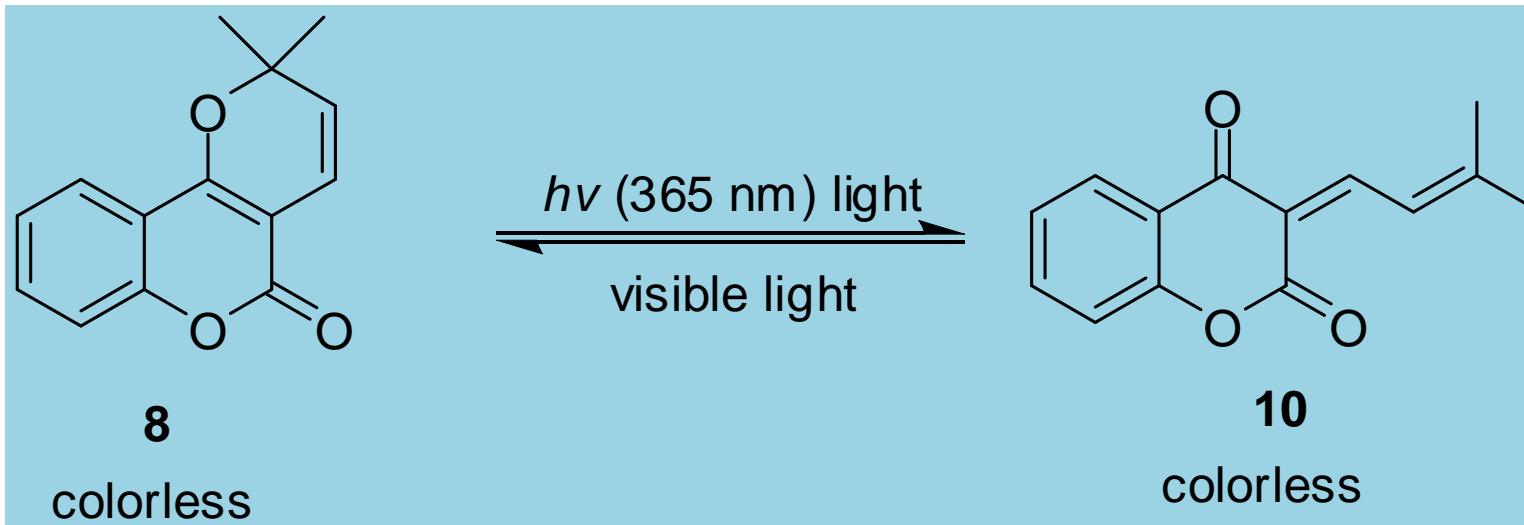
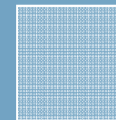


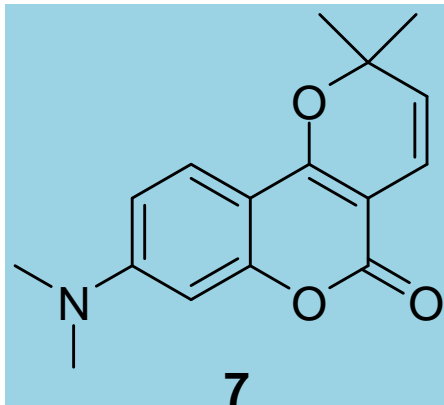
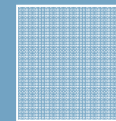
反應機構



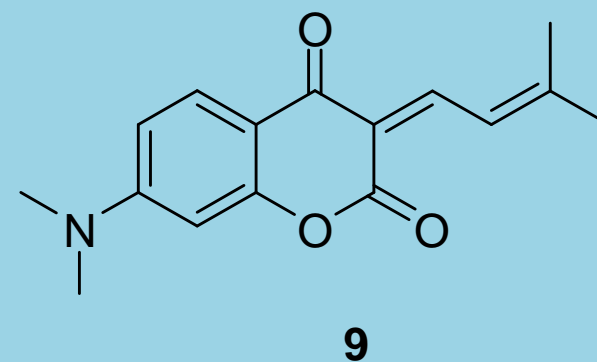
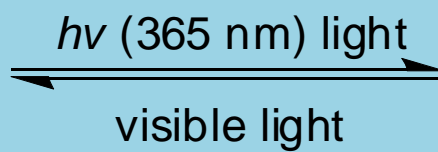




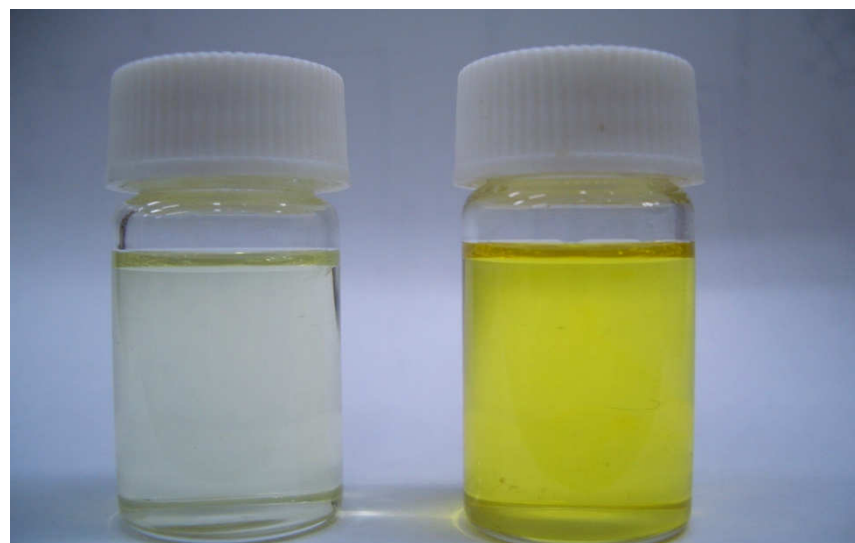


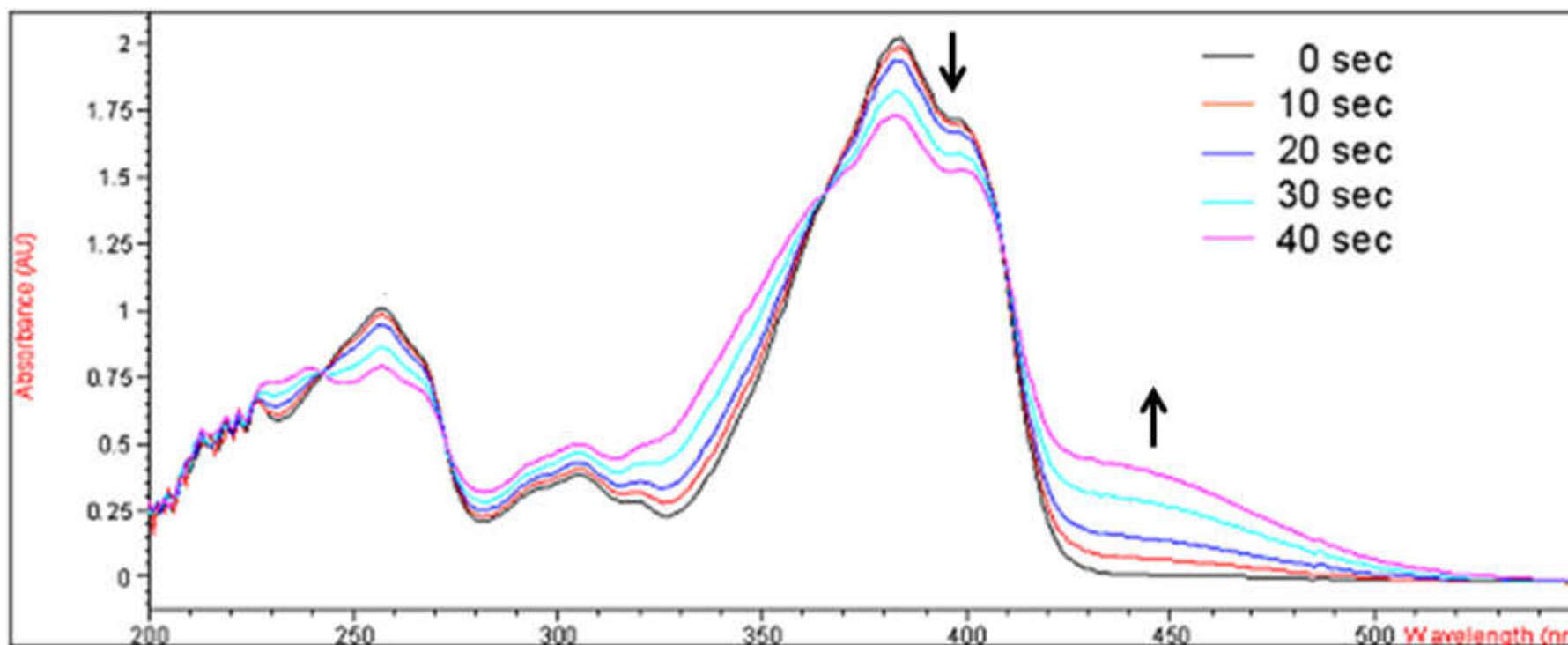
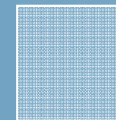


pale yellow

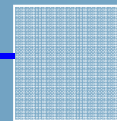


bright yellow





合成 7-dimethylamino-2,2-dimethyl-2H-pyrano[3,2-c]chromen-5-one (7) :



取一個25ml圓底燒瓶放入磁石，加入100mg(0.487mmol) 7-二甲基胺-4-羥基香豆素(7-*N,N*-Dimethylamino-4-hydroxycoumarin) (5B) 溶於5ml CH_2Cl_2 與2ml MeOH。

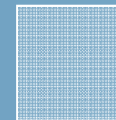


加入40mg(0.487mmol) 3-甲基-2-丁烯醛(3-methylbut-2-enal) (6)。



最後加入催化量(7.2mg)的乙二胺乙二酸(ethylenediamine diacetate)





室溫下攪拌約0.5 hr。



將溶劑抽掉後，加入5ml CH_2Cl_2
使固體溶解。



將溶液到入分液漏斗中，加入5ml 水
萃取3次。



取有機層，加入適量的無水硫酸鎂去水





以重力過濾方式，將濾液直接濾入以乾燥過的25ml圓底瓶內。



進行濃縮去除 CH_2Cl_2 ，得到固體



最終以滴管管柱層析分離得到純物質

↓ (Hex : EA = 1 : 9)

乾燥



秤重並計算產率

