

1. 用简便的化学方法区分下列各组化合物

苯胺，N-甲基苯胺，N,N-二甲基苯胺

苯胺

N-甲基苯胺

N,N-二甲基苯胺



重氮盐

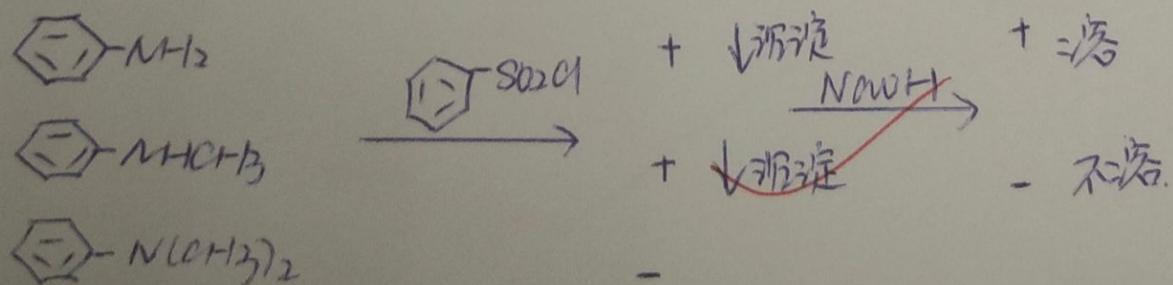
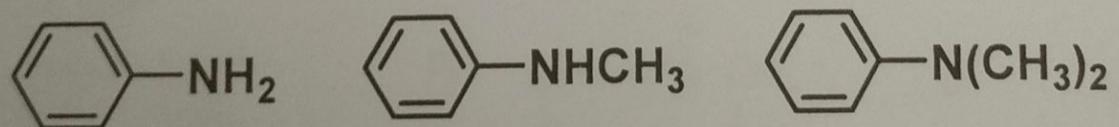
黄色液体/固体

不反应

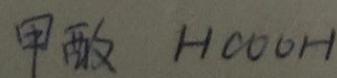
产生  $N_2$

不反应

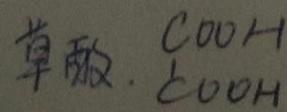
不反应



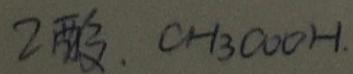
## 2. 甲酸，乙酸，草酸，丙二酸



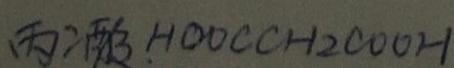
+ 褪色 ~~托伦试剂~~ + 砖红色沉淀.



$\xrightarrow[H^+]{KMnO_4}$  + 褪色 -



- 5  $\xrightarrow{\Delta}$  -



- +  $CO_2 \uparrow$