



Insecticides and Toxins 313 CHM

الإجابة النموذجية لامتحان المبيدات والسموم ٣١٣ ك

الفرقة : الثالثه

الشعبة : الكيمياء

التاريخ : مساء الثلاثاء ٣ / ١ / ٢٠١٧

الممتحن : د/ محمد سيد عبد الرحمن سيد بحالو

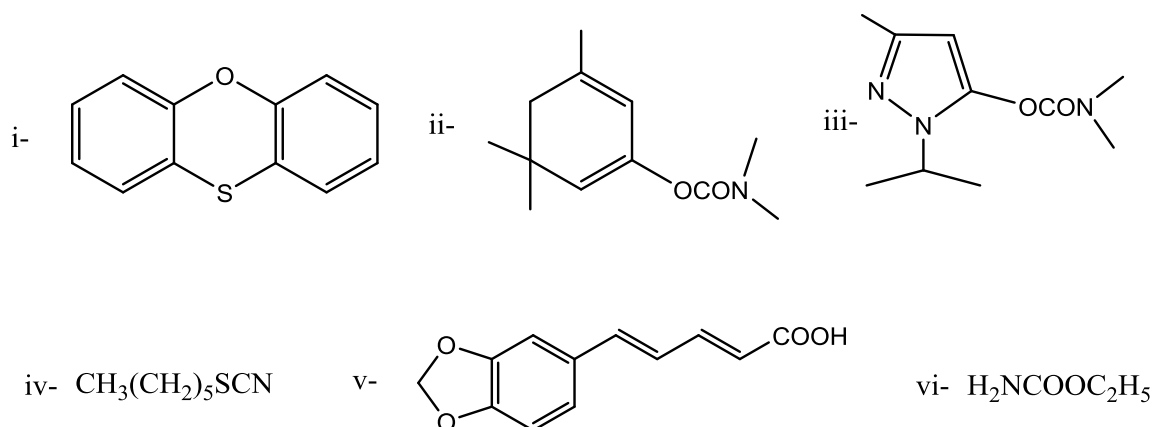
قسم : الكيمياء

كلية : العلوم

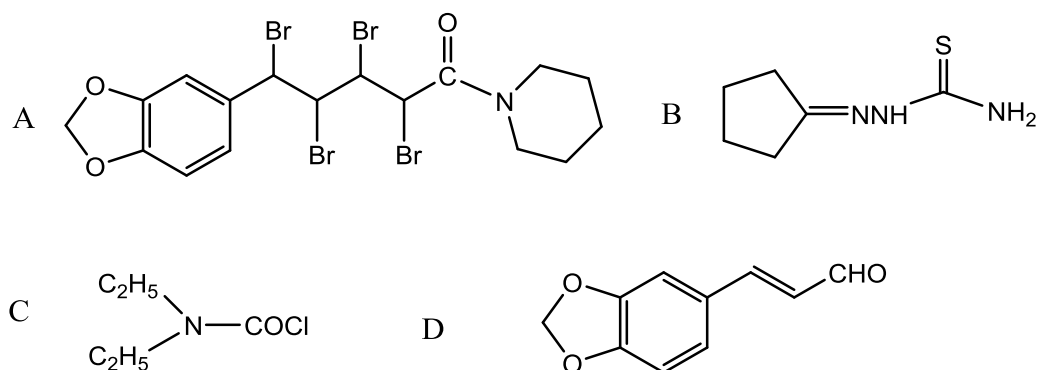
1- a- Evidences.

- 1- Elemental analysis and MW det. \longrightarrow MF is $C_{10}H_{14}N_2$
- 2- Reaction with $HNO_2 \longrightarrow$ -Ve, tertiary amine
- 3- Reaction with benzene sulphonyl chloride \longrightarrow -Ve, tertiary amine
- 4- Heating with $ZnCl_2 \longrightarrow$ mixture of pyridine, pyrrole and methyl amine (methyl group at N)
- 5- Oxidation of nicotine gives nicotinic acid \longrightarrow side chain of pyridine at position 3
- 6- Reduction by hydrogen consume only $3H_2 \longrightarrow$ saturation at pyrrole

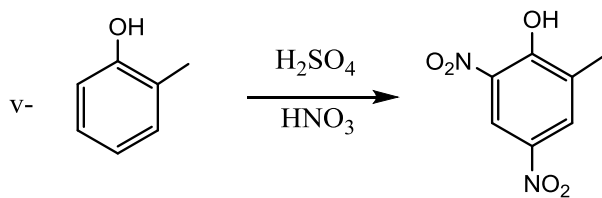
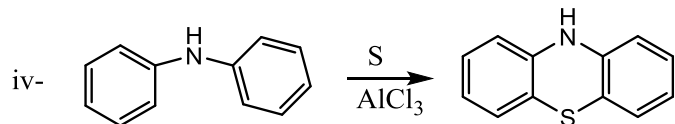
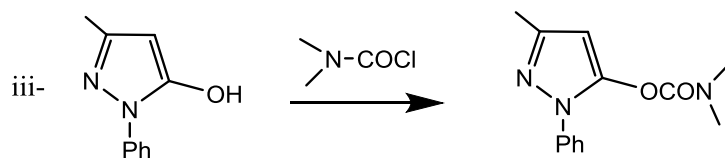
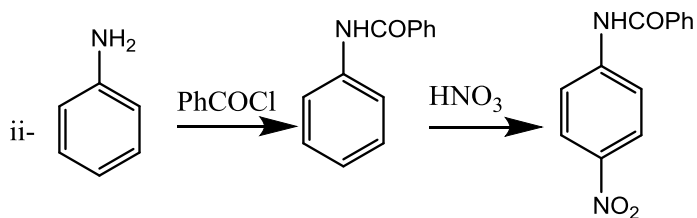
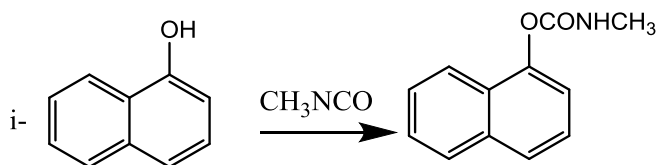
1b-



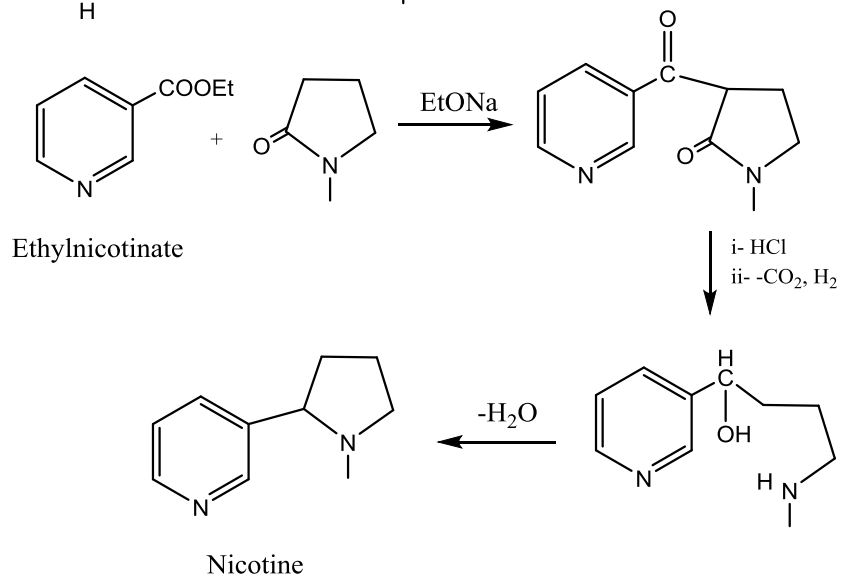
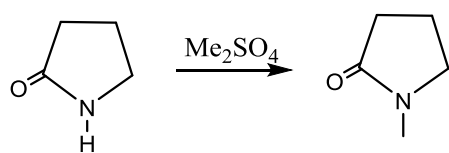
1C



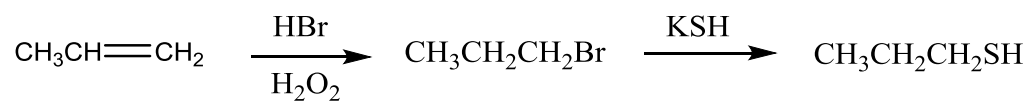
2- a-



2 b- i



ii-



iii-

