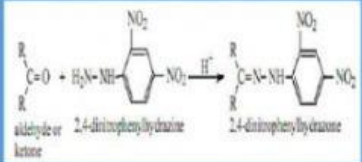


Chemical tests involving carbonyl compounds

Brady's Test: Confirmation test for Carbonyl compounds

Yellow orange precipitate is formed

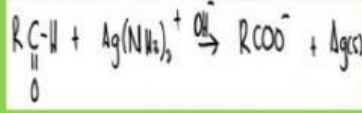


aldehyde or ketone + 2,4-dinitrophenylhydrazine → 2,4-dinitrophenylhydrazone

Tollen's Test:

To differentiate aldehyde from ketone

Formation of silver mirror (Ag)



$R-C(=O)H + Ag(NH_3)_2^+ + OH^- \rightarrow RCOO^- + Ag(s)$

Iodoform test:

Confirmation test for structure methyl carbonyl

$\begin{array}{c} O \\ || \\ -C-CH_3 \end{array}$

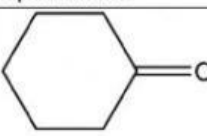
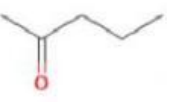
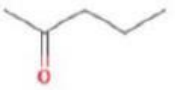
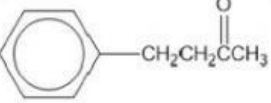
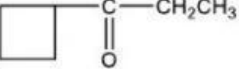
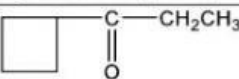
methyl carbonyl

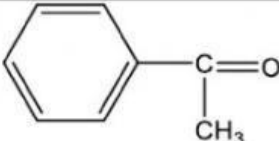
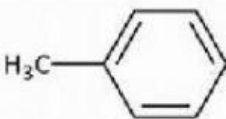
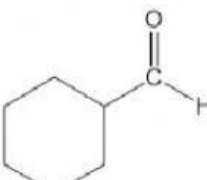
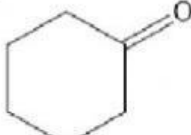
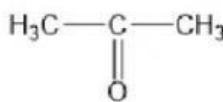
 $\begin{array}{c} OH \\ | \\ -C-CH_3 \\ | \\ H \end{array}$

methyl carbinol

Yellow precipitate is formed

Instruction: Propose test(s) to differentiate the two given compounds by writing **Yes** in the column

No	Organic compounds		Brady's test	Tollen's test	Iodoform Test
1	$CH_3CH_2CH_2C(=O)H$ Butanal	vs	$CH_3CH_2C(=O)CH_2CH_3$ 3-pentanone		
2	$CH_3CH_2CH_2C(=O)H$ Butanal	vs	 cyclohexanone		
3	$CH_3CH_2C(=O)CH_2CH_3$ 3-pentanone	vs	 2-pentanone		
4	 2-pentanone	vs	$CH_3CH_2CH_2C(=O)H$ Butanal		
5	 4-phenyl-2-butanone (ketone)	vs	 1-cyclobutyl-1-propanone (ketone)		
6	 1-cyclobutyl-1-propanone (ketone)	vs	 2-pentanone		
7	$H_3C-C(=O)H$ Ethanal	vs	CH_3CH_3 Ethane		

NO	Organic Compounds		Brady's test	Tollen's test	Iodoform test
8	 acetophenone	 Toluene			
9	 Cyclohexanecarbaldehyde	 Cyclohexanone			
10	 Propanone	 2-propanol			