

Halogen derivatives – 2016

1. 9701/22/O/N/16/No.5

In each section of this question choose the answer or answers from the options listed.

(a) Six particles are listed.



(i) Identify **two** particles produced during the reaction of methane and chlorine in the presence of UV light.

..... [1]

(ii) Identify the **two** particles produced by the heterolytic fission of a bond in chloromethane.

..... [1]

(b) Seven reaction types are listed.

addition substitution oxidation elimination
hydrolysis condensation reduction

(i) Name the type of reaction involved when Tollens' reagent is used to identify an aldehyde.

..... [1]

(ii) Name the type of reaction involved in the test for a carbonyl group using 2,4-DNPH.

..... [1]

(iii) Name the type of reaction involved in the reaction of a ketone with $NaBH_4$.

..... [1]

(iv) Name the type of reaction involved in the reaction of an aldehyde with HCN.

..... [1]

[Total: 6]