

Organic Chemistry Laboratory Tests For Functional Groups

Occasionally, on the DAT organic chemistry section, you'll be asked about one of the chemical lab tests you likely used in your lab sections to identify the functional groups in a molecule. Below is a list of the most common lab tests, which functional group they test for, and what a positive result looks like.

Test	Reagent	Functional Group Tested	Positive Result
Tollens' Test	Ag ₂ O / NH ₃ or Ag(NH ₃) ₂ ⁺	Aldehydes	Sides of flask are coated with a silver mirror
Iodoform Test	I ₂ / OH ⁻	Methyl ketones	Yellow precipitate forms (CHI ₃)
Silver Nitrate in Alcohol	AgNO ₃ in alcohol	Alkyl halides	Precipitate of Ag compound formed
Bromine Test	Br ₂ /CCl ₄	Alkenes and alkynes	Brown color of Bromine disappears
Baeyer Test	Dilute KMnO ₄	Alkenes and alkynes	Purple solution turns to brown precipitate
Jones Test*	CrO ₃ / H ₂ SO ₄	1° and 2° alcohols	Orange reagent turns blue-green
Lucas Test	ZnCl ₂ / HCl	2°, 3°, and benzylic alcohols	Cloudy solution initially, then separate layer forms

***Fun fact:** The Jones Test is used in breathalyzers to test for drunk drivers.