

**A SHORT COURSE IN
QUALITATIVE
CHEMICAL ANALYSIS**

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A Short Course in Qualitative Chemical Analysis by John Howard Appleton

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JOHN HOWARD APPLETON

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CHEMICAL ANALYSIS**

° A

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IN

QUALITATIVE
CHEMICAL ANALYSIS.

BY

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The work is fully illustrated.

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By JOHN HOWARD APPLETON.

PREFACE.

THE author, having used this little work for several years in his own classes, offers a new and revised edition to his fellow-teachers.

The features of the book that are considered of especial importance are—

First, its brevity and compactness;

Second, the direct and simple course of analysis prescribed;

Third, the large number of formulas and equations presented.

The experienced teacher will at once appreciate the importance of these characteristics.

There are many valuable works on this subject, but most of them are too bulky and too costly; so, also, some of the best of them give processes of analysis that are far too complex and involved, for a beginner. As to formulas and equations,—these are unquestionably of great importance: no matter whether the student hopes to become an expert professional analyst, or merely to gain mental discipline, he must master reactions and formulas if he would really comprehend the subject.

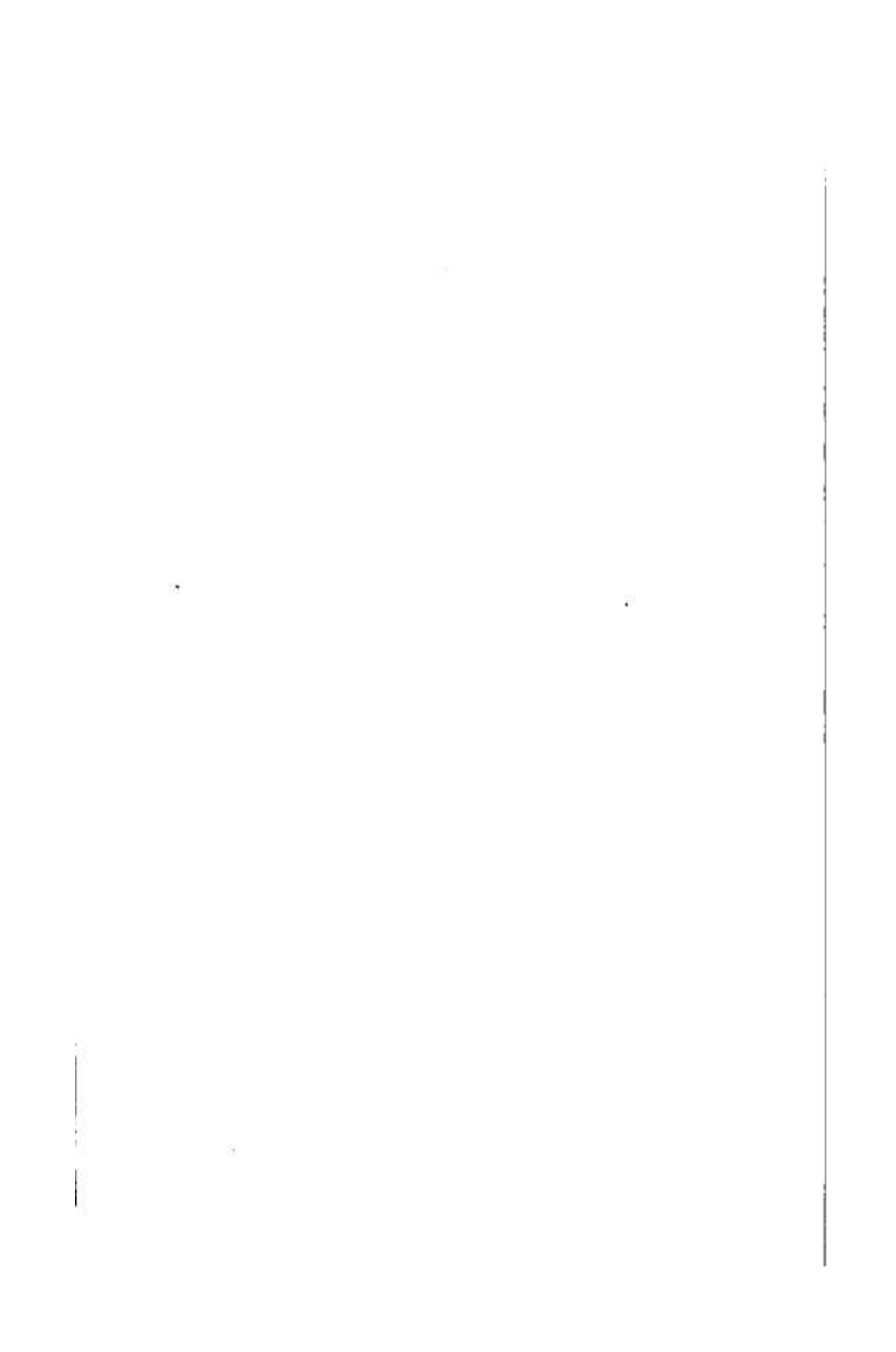
The especial aim of the author is to afford a short but instructive course in this fascinating branch of Chemistry.

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QUALITATIVE ANALYSIS.

CHAPTER I.

FIRST GROUP OF METALS.

Description.

1. THE First Group includes those metals which are precipitated upon addition of Chlorohydric acid (HCl) to their solution.

The metals are—

Lead,	Pb	(Plumbum),	usually II. (sometimes IV.).
Silver,	Ag	(Argentum),	“ I.
Mercury, (when it is in its mercurous form),			
	Hg ₂	(Hydrargyrum),	II.

Types of Compounds.

2. Plumbic oxide,	Pb O,	Pb = O.
Plumbic di-oxide,	Pb O ₂ ,	Pb { = O. = O.
Argentive chloride,	Ag Cl,	Ag — Cl.
Mercurous chloride,	Hg ₂ Cl ₂ ,	Cl — Hg — Hg — Cl.

Mercuric compounds belong to the Second Group. For if we add Chlorohydric acid to a Mercuric compound, Mercuric chloride is formed; but Mercuric chloride is *soluble*, hence it does not appear as a precipitate in the First Group, but passes on to the next Group, where it is precipitated.