

Cambridge University Press  
978-1-107-65713-7 - Volumetric Analysis  
A. J. Berry  
Frontmatter  
[More information](#)

---

**CAMBRIDGE PHYSICAL SERIES**

**VOLUMETRIC ANALYSIS**

Cambridge University Press  
978-1-107-65713-7 - Volumetric Analysis  
A. J. Berry  
Frontmatter  
[More information](#)

---

# VOLUMETRIC ANALYSIS

BY

A. J. BERRY, M.A.

Fellow of Downing College, Cambridge

Cambridge :  
at the University Press

1915

Cambridge University Press  
978-1-107-65713-7 - Volumetric Analysis  
A. J. Berry  
Frontmatter  
[More information](#)

---

**CAMBRIDGE**  
UNIVERSITY PRESS

University Printing House, Cambridge CB2 8BS, United Kingdom

Published in the United States of America by Cambridge University Press, New York

Cambridge University Press is part of the University of Cambridge.

It furthers the University's mission by disseminating knowledge in the pursuit of education, learning and research at the highest international levels of excellence.

[www.cambridge.org](http://www.cambridge.org)

Information on this title: [www.cambridge.org/9781107657137](http://www.cambridge.org/9781107657137)

© Cambridge University Press 1915

This publication is in copyright. Subject to statutory exception and to the provisions of relevant collective licensing agreements, no reproduction of any part may take place without the written permission of Cambridge University Press.

First published 1915

First paperback edition 2014

*A catalogue record for this publication is available from the British Library*

ISBN 978-1-107-65713-7 Paperback

Cambridge University Press has no responsibility for the persistence or accuracy of URLs for external or third-party internet websites referred to in this publication, and does not guarantee that any content on such websites is, or will remain, accurate or appropriate.

## PREFACE

**T**HE present work has originated in connexion with teaching Volumetric Analysis to the author's students in the College Laboratory. Hitherto, most of the books on the subject available for the student have been elementary works, which do not attempt to cover much ground, and standard works such as that of Sutton. It was felt that the educative value of Volumetric Analysis justified the production of a book in which an attempt was made to treat the subject with some degree of thoroughness from the theoretical as well as from the practical point of view. In this connexion, particular care has been taken to make the conception of equivalent weights and normal solutions as clear as possible, and also to encourage the student to calculate his results from the actual chemical changes which take place, rather than to have recourse to the shorter method—excellent for the practical analyst—of always working with normal or deci-normal solutions, and calculating his results with the aid of “factors.” The author ventures to hope that the inclusion of a chapter on the Theory of Indicators will increase the interest of the student in the theoretical part of the subject.

The author desires to express his most hearty thanks to Mr T. G. Bedford, Editor of the Cambridge Physical Series, for many valuable suggestions and criticisms both of the manuscript and of the proofs. His thanks are also due to Mr L. F. Newman for information regarding certain methods. In the preparation of the book, information on particular points has been freely sought from larger works, and the author would here express his gratitude to the Council of the British Association for their courtesy in permitting the reproduction of Figs. 5, 6 and 7, which are taken from Mr H. T. Tizard's valuable paper on the Sensitiveness of Indicators in the Report for 1911.

A. J. B.

DOWNING COLLEGE, CAMBRIDGE.

*February, 1915.*

Cambridge University Press  
978-1-107-65713-7 - Volumetric Analysis  
A. J. Berry  
Frontmatter  
[More information](#)

---

## CONTENTS

CHAP.	PAGE
I. INTRODUCTION . . . . .	1
II. DETERMINATIONS WITH STANDARD POTASSIUM PERMANGANATE	16
III. POTASSIUM DICHROMATE AS A VOLUMETRIC OXIDIZING AGENT	34
IV. DETERMINATIONS WITH STANDARD IODINE . . . . .	40
V. THE DETERMINATION OF IODINE BY STANDARD SODIUM THIOSULPHATE . . . . .	47
VI. THE DETERMINATION OF HALIDES BY STANDARD SILVER NITRATE . . . . .	56
VII. THE DETERMINATION OF SILVER IN ACID SOLUTION BY STANDARD AMMONIUM THIOCYANATE . . . . .	63
VIII. ACIDIMETRY AND ALKALIMETRY . . . . .	66
IX. THE THEORY OF INDICATORS . . . . .	82
X. UNCLASSIFIED VOLUMETRIC DETERMINATIONS . . . . .	96
XI. SOME APPLICATIONS OF VOLUMETRIC METHODS . . . . .	110
XII. SOME EXAMPLES OF VOLUMETRIC DETERMINATIONS . . . . .	118
ABRIDGED LIST OF THE ELEMENTS AND THEIR ATOMIC WEIGHTS . . . . .	128
FORMULA VALUES OF CERTAIN SUBSTANCES . . . . .	129
TABLE OF HARDNESS . . . . .	130
SPECIFIC GRAVITY TABLES . . . . .	131
LOGARITHMS . . . . .	132
ANTI-LOGARITHMS . . . . .	134
INDEX . . . . .	136