

### Book review

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*Gmelin Handbuch der Anorganischen Chemie*. 8th Edition. *Kohlenstoff. Teil C4. Ausgewählte C—H—O Radikale, HCOOH, CH<sub>3</sub>COOH, H<sub>2</sub>C<sub>2</sub>O<sub>4</sub>*; edited by K. v. Baczko. Gmelin Institut für Anorganische Chemie und Grenzgebiete der Max-Planck-Gesellschaft zur Förderung der Wissenschaften, Springer-Verlag, Berlin/Heidelberg/New York, 1975, viii + 236 pages, DM 376, \$154.20.

This volume continues the Gmelin series on carbon compounds: organic chemistry for the physical and inorganic chemist. We find covered here a number of radical species containing carbon, hydrogen and oxygen, such as CH<sub>3</sub>O, CH<sub>2</sub>O<sup>-</sup>, HCO, HCO<sup>+</sup>, CHO<sub>2</sub>, CO<sub>2</sub><sup>-</sup>, HOCO<sub>2</sub> and CO<sub>3</sub><sup>-</sup>; formic acid and the formate ion; acetic acid and the acetate ion; oxalic acid. The information given on the acids is all physical in nature: molecular and spectroscopic properties, thermochemical, electrochemical, optical and magnetic properties. Preparative aspects cover only the preparation of the pure substance, the syntheses of isotopically labelled species and the preparation of single crystals. The chemical reactivity discussed is limited to thermolysis, photolysis, radiolysis and complexes of the species in question. For all other aspects of preparation and reactivity, the reader is referred to appropriate Beilstein volumes. To your reviewer, whose main contact with acetic acid and acetate ion has been the usual freshman chemistry calculations involving their aqueous solution equilibria, the 78 pages of physical data on these species are a source of amazement. One comes away impressed anew by the important contribution the Gmelin Institut is making in collecting all of this information in such a thorough manner.

The table of contents of this volume is provided in German and English, as are chapter and section headings. There is no index, but the compounds covered are few in number and the table of contents is quite detailed. The literature coverage is complete through the end of 1972, but some 1973 and 1974 references have been included.

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