

The Fourth Edition of the Orange Book, formally known as the Compendium of Terminology in Analytical Chemistry, is currently being prepared for publication by the Royal Society of Chemistry. The work is based on Recommendations and Technical Reports published in Pure and Applied Chemistry during the period 2013-2021. This list gives the chapter titles, citations of the PAC articles on which they are based including doi's by which the articles can be accessed.

Chapter 1: Fundamental and Metrological Concepts; Hibbert DB, Korte E-H, Örnemark U. Metrological and quality concepts in analytical chemistry (IUPAC Recommendations 2021). *Pure Appl Chem.* 2021;93(9):997–1048. doi:10.1515/pac-2019-0819.

Chapter 2: Chemometrics; Hibbert DB. Vocabulary of concepts and terms in chemometrics (IUPAC Recommendations 2016). *Pure Appl Chem.* 2016;88(4):407–443. doi: 10.1515/pac-2015-0605.

Chapter 3: Extraction for sample preparation; Poole C, Mester Z, Miró M, Pedersen-Bjergaard S, Pawliszyn J. Glossary of terms used in extraction (IUPAC Recommendations 2016). *Pure Appl Chem.* 2016;88(5):517–558.
Poole C, Mester Z, Miró M, Pedersen-Bjergaard S, Pawliszyn J. Extraction for analytical scale sample preparation (IUPAC Technical Report). *Pure Appl Chem.* 2016;88(7):649–687. doi: 10.1515/pac-2015-0903.

Chapter 4: Mass and volume in analytical chemistry; Camões M, F., Christian G, D., Hibbert DB. Mass and volume in analytical chemistry (IUPAC Technical Report). *Pure Appl Chem.* 2018;90(3):563–602. doi: 10.1515/pac-2017-0410.

Chapter 5: Separation in analytical chemistry; Maryutina TA, Savonina EY, Fedotov PS, Smith RM, Siren H, Hibbert DB. Terminology of separation methods (IUPAC Recommendations 2017). *Pure Appl Chem.* 2018;90(1):181–231. doi: 10.1515/pac-2017-0111.

Chapter 6: Analytical spectroscopy; Infante HG, Warren J, Chalmers J, Dent G, Todoli JL, Collingwood J, et al. Glossary of methods and terms used in analytical spectroscopy (IUPAC Recommendations 2021). *Pure Appl Chem.* 2021;93(6):647–776. doi: 10.1515/pac-2019-0203.

Chapter 7: Mass spectrometry; Murray KK, Boyd RK, Eberlin MN, Langley GJ, Li L, Naito Y. Definitions of terms relating to mass spectrometry (IUPAC Recommendations 2013). *Pure Appl Chem.* 2013;85(7):1515–1609. doi: 10.1351/PAC-REC-06-04-06.

Chapter 8: Electroanalytical chemistry; Pingarrón JM, Labuda J, Barek J, Brett CMA, Camões MF, Fojta M, et al. Terminology of electrochemical methods of analysis

(IUPAC Recommendations 2019). *Pure Appl Chem.* 2020;92(4):641–694. doi: 10.1515/pac-2018-0109.

Chapter 9: Radioanalytical chemistry; Chai Z, Chatt A, Bode P, Kucera J, Greenberg R, Hibbert DB. Terminology of radioanalytical methods (IUPAC Recommendations 2020). *Pure Appl Chem.* 2021;93(1):69–111. doi: 10.1515/pac-2019-0302.

Chapter 10: Analytical chemistry of surfaces; Takeuchi T, McQuillan J, Shard A, Russell A, Hibbert DB. Glossary of methods and terms used in surface chemical analysis (IUPAC Recommendations 2020). *Pure Appl Chem.* 2020;92(11):1781–1860. doi: 10.1515/pac-2019-0404.

Chapter 11: Thermal analysis; Lever T, Haines P, Rouquerol J, Charsley Edward L, Van Eckeren P, Burlett DJ. ICTAC nomenclature of thermal analysis (IUPAC Recommendations 2014). *Pure Appl Chem.* 2014;86(4):545–553. doi: 10.1515/pac-2012-0609.

Chapter 12: Bioanalytical chemistry; Labuda J, Bowater RP, Fojta M, Gauglitz G, Glatz Z, Hapala I, et al. Terminology of bioanalytical methods (IUPAC Recommendations 2018). *Pure Appl Chem.* 2018;90(7):1121–1198. doi: 10.1515/pac-2016-1120.

Chapter 13: Quality in analytical chemistry; Hibbert DB, Korte E-H, Örnemark U. Metrological and quality concepts in analytical chemistry (IUPAC Recommendations 2021). *Pure Appl Chem.* 2021;93(9):997–1048. doi:10.1515/pac-2019-0819.