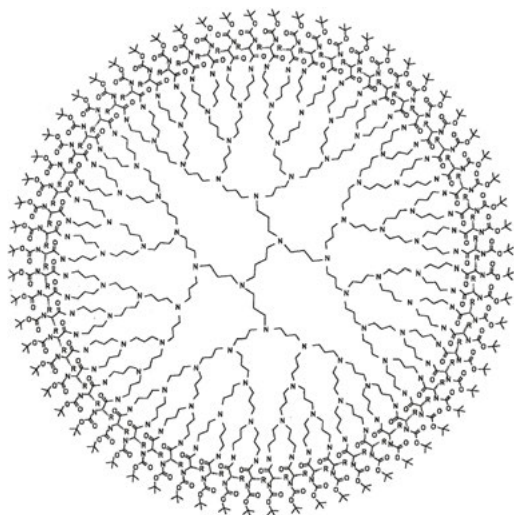


Nomenclature and terminology for dendrimers with regular dendrons and for hyperbranched polymers (IUPAC Recommendations 2017)

Fradet, A., Chen, J., Hellwich, K., *et al.*

Pure and Applied Chemistry, 2019

Volume 91, Issue 3, pp. 523-561



The present document provides recommendations for (i) definitions of terms related to dendrimers with regular dendrons and to hyperbranched polymers, and (ii) nomenclature for naming these complex compounds on the basis of structure-based nomenclature for regular and irregular organic polymers, including adjustments required for specifying dendritic and hyperbranched macromolecular structures. The recommendations and the examples deal with organic-chemical structures only. Nevertheless, the general principles described in this document can similarly be applied to inorganic and to hybrid inorganic-organic dendrimers and hyperbranched macromolecules.

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List of keywords for polymer science (IUPAC Technical Report)

Slomkowski, S., Fellows, C., Hiorns, R., *et al.*

Pure and Applied Chemistry, 2019

Volume 91, Issue 6, pp. 997-1027

Internet searches of scientific literature return results based mainly on electronic engines, which work to identify relevant keywords. These keywords are supplied by the authors of publications. The selection of keywords that best describe the content of a

publication is therefore very important. Some publishers of journals related to polymer science provide a recommended list of keywords from which authors must select the most relevant terms. Wiley, for example does this. Some publishers, on the other hand, give authors license to provide their own keywords, while others provide a non-binding list of keywords, *i.e.* authors may use it or ignore it as they prefer. In addition to these variations, different authors place a different emphasis on the selection of keywords. Some take it as a serious exercise and strive to provide keywords that genuinely encapsulate the contents of their article, while others regard keywords as a nuisance and do not particularly care if they are a “low precision” guide to the content of their publication. Furthermore, as science is a dynamic discipline, newly discovered phenomena are constantly giving rise to new terms that may not be included in existing lists of keywords. All these factors introduce a degree of ambiguity which, in turn, makes searching the literature by keywords less accurate.

For these reasons it is worthwhile to collect the most salient terms from all areas of polymer science, *i.e.* polymer chemistry, polymer physics, polymer technology, and polymer properties, and then to assemble these terms into a representative list that may serve as an IUPAC-recommended list of keywords for polymer science. This is the aim of this paper. Ideally, all polymer-related journals would employ this list and would insist on authors selecting from it, except where terms are newly coined, in which event—if prudent—they would be added to the list, making it an evolving document. This would ultimately result in a streamlined search tool: faster, more comprehensive, and more accurate.

doi.org/10.1515/pac-2018-0917

Recent advances in analysis of trace elements in environmental samples by X-ray based techniques (IUPAC Technical Report)

Terzano, R., Denecke, M., Falkenberg, G., *et al.*

Pure and Applied Chemistry, 2019

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Trace elements analysis is a fundamental challenge in environmental sciences. Scientists measure trace elements in environmental media in order to assess the quality and safety of ecosystems and to quantify the burden of anthropogenic pollution. Among the available analytical techniques, X-ray based methods are