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Yamamoto / Epitaxially Grown Ultra-Flat Self-Assembling Monolayers with Dendrimers, Reprinted from: *Molecules* 2018, 23, 485, doi: 10.3390/molecules23020485 -- Matteo Savastano, Carla Bazzicalupi, Claudia Giorgi, Paola Gratteri and Antonio Bianchi / Cation, Anion and Ion-Pair Complexes with a G-3 Poly(ethylene imine) Dendrimer in Aqueous Solution, Reprinted from: *Molecules* 2017, 22, 816, doi: 10.3390/molecules22050816 -- Marisol Gouveia, Jo˜ao Figueira, Manuel G. Jardim, Rita Castro, Helena Tomas, Kari Rissanen and Jo˜ao Rodrigues / Poly(alkylideneimine) Dendrimers Functionalized with the Organometallic Moiety [Ru( $\eta^5$ -C<sub>5</sub>H<sub>5</sub>)(PPh<sub>3</sub>)<sub>2</sub>]<sup>+</sup> as Promising Drugs Against Cisplatin-Resistant Cancer Cells and Human Mesenchymal Stem Cells, Reprinted from: *Molecules* 2018, 23, 1471, doi:10.3390/molecules23061471 -- Yossef Alnasser, Siva P. Kambhampati, Elizabeth Nance, Labchan Rajbhandari, Shiva Shrestha, Arun Venkatesan, Rangaramanujam M. Kannan and Sujatha Kannan / Preferential and Increased Uptake of Hydroxyl-Terminated PAMAM Dendrimers by Activated Microglia in Rabbit Brain Mixed Glial Culture, Reprinted from: *Molecules* 2018, 23, 1025, doi:10.3390/molecules23051025 -- Noemi Molina, Angela Martin-Serrano, Tahia D. Fernandez, Amene Tesfaye, Francisco Najera, Mar'ia J. Torres, Cristobalina Mayorga, Yolanda Vida, Maria I. Montanez and Ezequiel Perez-Inestrosa / Dendrimeric Antigens for Drug Allergy Diagnosis: A New Approach for Basophil Activation Tests, Reprinted from: *Molecules* 2018, 23, 997, doi:10.3390/molecules23050997 -- Lisa Christadore, Mark W. Grinstaff and Scott E. Schaus / Fluorescent Dendritic Micro-Hydrogels: Synthesis, Analysis and Use in Single-Cell Detection, Reprinted from: *Molecules* 2018, 23, 936, doi:10.3390/molecules23040936 -- Feng Gao, Ivan Djordjevic, Oleksandr Pokholenko, Haobo Zhang, Junying Zhang and Terry W.J. Steele / On-Demand Bioadhesive Dendrimers with Reduced Cytotoxicity, Reprinted from: *Molecules* 2018, 23, 796, doi:10.3390/molecules23040796 -- Abhay Singh Chauhan / Dendrimers for Drug Delivery, Reprinted from: *Molecules* 2018, 23, 938, doi:10.3390/molecules23040938 -- Mohiuddin Quadir, Susanne Fehse, Gerhard Multhaup and Rainer Haag / Hyperbranched Polyglycerol Derivatives as Prospective Copper Nanotransporter Candidates, Reprinted from: *Molecules* 2018, 23, 1281, doi:10.3390/molecules23061281 -- Celia Sehad, Tze Chieh Shiao, Lamyaa M. Sallam, Abdelkrim Azzouz and Ren'e Roy / Effect of Dendrimer Generation and Aglyconic Linkers on the Binding Properties of Mannosylated Dendrimers Prepared by a Combined Convergent and Onion Peel Approach, Reprinted from: *Molecules* 2018, 23, 1890, doi: 10.3390/molecules23081890 -- Patrik Stenstr"om, Dario Manzanares, Yuning Zhang, Valentin Ce˜na and Michael Malkoch / Evaluation of Amino-Functional Polyester Dendrimers Based on Bis-MPA as Nonviral Vectors for siRNA Delivery, Reprinted from: *Molecules* 2018, 23, 2028, doi:10.3390/molecules23082028 -- Renan Vinicius de Araujo, Soraya da Silva Santos, Elizabeth Igne Ferreira and Jeanine Giarolla / New Advances in General Biomedical Applications of PAMAM Dendrimers, Reprinted from: *Molecules* 2018, 23, 2849, doi:10.3390/molecules23112849.

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## Sommario/riassunto

Dendrimers have firmly established their space in the macromolecular field since their first discovery in 1978. These monodispersed and hyperbranched macromolecules present unique properties with demonstrated potential in varied scientific disciplines. Dr. Donald A Tomalia is one of the pioneers in this area whose name is synonym for polyamidoamine (PAMAM) dendrimers, one of the most extensively investigated macromolecular architectures. In this monograph, his colleagues and friends celebrate Don's achievements and contributions

to the field, on the occasion of his 80th birthday in 2018, which also coincides with the 40th anniversary of the first report on dendrimers. It provides the reader with excellent reviews on different aspects of dendritic architectures, followed by research articles that explore the state-of-the-art in synthesis, properties and varied applications, including in biology. Collectively, it provides scientists just beginning their careers, as well as firmly established ones, with the pulse of the field and inspiration to continue to explore these intriguing macromolecules.

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