

The 2019 Cahn Prize Finalists

- December 2019 [Iron phosphides supported on three-dimensional iron foam as an efficient electrocatalyst for water splitting reaction](#)
Yunpeng Wang, Bo Ma, Yantao Chen
J Mater Sci 54, 14872–14883 <https://rdcu.be/bZHVZ>
- November 2019 [Microwave-assisted synthesis of a manganese metal–organic framework and its transformation to porous MnO/carbon nanocomposite utilized as a shuttle suppressing layer in lithium–sulfur batteries](#)
David Skoda, Tomas Kazda, Lukas Munster, Barbora Hanulikova, Ales Styskalik, Pierre Eloy, Damien P. Debecker, Petr Vyroubal, Lucie Simonikova, Ivo Kuritka
J Mater Sci 54, 14102–14122 <https://rdcu.be/bZHV0>
- October 2019 [Experimental study of carbides in the Ti–Cr–C system](#)
F. Haglöf, B. Kaplan, S. Norgren, A. Blomqvist, M. Selleby
J Mater Sci 54, 12358–12370 <https://rdcu.be/bZHV2>
- September 2019 [Air-processed, large grain perovskite films with low trap density from perovskite crystal engineering for high-performance perovskite solar cells with improved ambient stability](#)
Manman Ding, Leijie Sun, Xiayan Chen, Tianyuan Luo, Tian Ye, Chunyan Zhao, Wenfeng Zhang, Haixin Chang
J Mater Sci 54, 12000–12011 <https://rdcu.be/bZHV4>
- August 2019 [Osteogenic cells differentiation on topological surfaces under ultrasound stimulation](#)
Irina Alexandra Paun, Bogdan Stefanita Calin, Cosmin Catalin Mustaciosu, Mona Mihailescu, Cezar Stefan Popovici, Catalin Romeo Luculescu
J Mater Sci 54, 12000–12011 <https://rdcu.be/bZHV5>
- July 2019 [Design of a smart sensor mesh for the measurement of pH in ostomy applications](#)
Anna McLister, Charnete Casimero, Aaron McConville, Charlotte M. Taylor, Clare L. Lawrence, Robert B. Smith, Ashish Mathur, James Davis
J Mater Sci 54, 10410–10419 <https://rdcu.be/bZHV7>
- June 2019 [Data-enabled structure–property mappings for lanthanide-activated inorganic scintillators](#)
G. Pilania, Xiang-Yang Liu, Zhehui Wang
J Mater Sci 54, 8361–8380 <https://rdcu.be/bZHV8>
- May 2019 [Air-stable all-inorganic perovskite quantum dot inks for multicolor patterns and white LEDs](#)
Wu Zhihai, Wei Jiao, Sun Yanni, Wu Jun, Hou Yafei, Wang Pan, Wang Nengping, Zhao Zhenfu
J Mater Sci 54, 6917–6929 <https://rdcu.be/bZHWb>
- April 2019 [Structure–property relationships of aramid fibers via X-ray scattering and atomic force microscopy](#)
Michael R. Roenbeck, Julia Cline, Vincent Wu, Mehdi Afshari, Steve Kellner, Patrick Martin, Juan David Londono, Laura E. Clinger, David Reichert, Steven R. Lustig, Kenneth E. Strawhecker
J Mater Sci 54, 6668–6683 <https://rdcu.be/bZHWd>
- March 2019 [Atomistic modeling of interfacial segregation and structural transitions in ternary alloys](#)
Yang Hu, Timothy J. Rupert
J Mater Sci 54, 3975–3993 <https://rdcu.be/bZHWe>
- February 2019 [Composites with surface-grafted cellulose nanocrystals \(CNC\)](#)
Lilian Forsgren, Karin Sahlin-Sjövolld, Abhijit Venkatesh, Johannes Thunberg, Roland Kádár, Antal Boldizar, Gunnar Westman, Mikael Rigdahl
J Mater Sci 54, 3009–3022 <https://rdcu.be/bZHWf>
- January 2019 [Robust raspberry-like all-polymer particles for the construction of superhydrophobic surface with high water adhesive force](#)
Cheng Chen, Liping Zhang, Mingfei Sheng, Yu Guan, Hao Dong, Shaohai Fu
J Mater Sci 54, 1898–1912 <https://rdcu.be/bZHWg>