

Graphite Intercalation Compounds: Extended Abstracts; 1986; Materials Research Society, 1986; M. S. Dresselhaus, G. Dresselhaus, S. A. Solin

In an intercalation reaction graphite behaves as an amphoteric compound due to its aromatic nature. It is capable of receiving electrons from electron donors and give electrons to electron acceptors. Thus, intercalation compounds are divided into two groups: acceptor and donor GICs. 2007. V. 82. No 6. P. 524531. 3. Inagaki M. Exfoliation of graphite via intercalation compounds with sulfuric acid // Chem. Physics Solids. 2004. V. 65. No 2. P. 133-137. 4. Dresselhaus M.S., Dresselhaus G. Intercalation compounds of graphite // Adv. Phys. 2002. V. 51. No 1. P. 1-186. 5. Matsumoto R., Hoshina Y., Akuzawa N. Thermoelectric Properties and Electrical Transport of Graphite Intercalation Compounds // Mater. Trans. 2009. V. 50. No 7. P. 1607-1611. Graphite intercalation compounds (GIC) are composed of planes of intercalant atoms or small molecules separated by a few graphitic sheets, in a sequence that repeats periodically along the c-axis as in a superlattice. The number of graphitic layers stacked between two successive intercalant planes is called the stage of the GIC. Intercalation Compounds. Graphite intercalation compounds (GIC) are composed of planes of intercalant atoms or small molecules separated by a few graphitic sheets, in a sequence that repeats periodically along the c-axis as in a superlattice. The number of graphitic layers stacked between two successive intercalant planes is called the stage of the GIC. The research on graphite intercalation compounds often acts as a forerunner for research in other sciences. For instance, the concept of staging, which is fundamental to graphite intercalation compounds, is also relevant to surface science in connection with adsorbates on metal surfaces and to high-temperature superconducting oxide layer materials. Phonon-folding and mode-splitting effects are not only basic to graphite intercalation compounds but also to polytypical systems such as superconductors, superlattices, and metal and semiconductor superlattices. Charge transfer effects play a role. This bar-code number lets you verify that you're getting exactly the right version or edition of a book. The 13-digit and 10-digit formats both work. Scan an ISBN with your phone Use the Amazon App to scan ISBNs and compare prices. Dual-intercalation batteries implement graphite electrodes as both cathodes and anodes and offer high specific energy, inexpensive and environmentally sustainable materials, and high operating voltages. Our research investigated the influence of surface composition on capacities and cycling efficiencies of chemically functionalized all-graphite battery electrodes. We subjected core-shell spherical particles and synthetic graphite flakes to high-temperature air oxidation, and hydrogenation to introduce, respectively, -OH , and -H surface functional groups. We identified noticeable influences of e