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A Review of: "Frontiers in Crystal Engineering, edited by Edward R. T. Tiekink and Jagadese Vittal"

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Book Review

Frontiers in Crystal Engineering, edited by Edward R. T. Tiekink and Jagadese Vittal, John Wiley & Sons, 2006; 346 pp.; $200.00.

Consistent and systematic developments in crystal engineering over the past decade have advanced this discipline from an emerging area to a significant field of study recognized and embraced by mainstream science. As one might expect, this progress did not originate from the collective effort of researchers traveling similar paths moving toward a common goal but rather from investigations probing a vast assortment of topics using a variety of investigative avenues. At times these studies seem to lack a unifying theme, but as researchers cultivate fresh new areas and unfold significant discoveries, the links that connect this body of work emerge with striking clarity.

Frontiers in Crystal Engineering is a timely compendium that demonstrates this rich diversity through tangible examples of recent advances in the field. The editors, Tiekink and Vittal, have organized this work into roughly three sections that explore material applications [supramolecular green chemistry (1), pharmaceutical cocrystals (2), and template-controlled solid-state synthesis (3)], the control of molecular assemblies [interplay of noncovalent bonds (4), clathrate systems (5), steric controlled crystal packing (6), and molecular hosts (7)], and supramolecular tendencies of coordination polymers [interpenetrating networks (8), paddlewheel building blocks (9), directing and sustaining crystalline architectures (11), and hydrogen bonding in coordination polymers (11 and 12)]. The collection of chapters is not meant to be comprehensive but offers a conveniently packaged snapshot of significant areas in the field. Each contribution contains discussions that range from fundamental concepts to deeper insights that on many occasions lead to consideration of potential fertile areas for future study. Both entrenched and budding members of the discipline will benefit from reading this text.

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