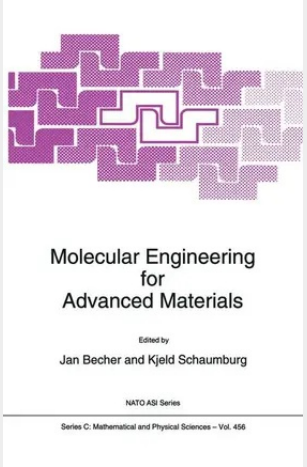
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Molecular Engineering for Advanced Materials

An important aspect of molecular engineering is the `property directed' synthesis of large molecules and molecular assemblies. Synthetic expertise has advanced to a state which allows the assembly of supramolecules containing thousands of atoms using a `construction kit' of molecular building blocks. Expansion in the field is driven by the appearance of new building blocks and by an improved understanding of the rules for joining them in the design of nanometer-sized devices.
Another aspect is the transition from supramolecules to materials. At present no single molecule (however large) has been demonstrated to function as a device, but this appears to be only a matter of time. In all of this research, which has a strongly multidisciplinary character, both existing and yet to be developed analytical techniques are and will remain indispensable.
All this and more is discussed in , which provides a masterly and up to date summary of one of the most challenging research fields to emerge in recent time.

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