

Book Review

The Synergy Between Dynamics and Reactivity at Clusters and Surfaces

Louis J. Farrugia (ed)

Kluwer Academic Publishers, Dordrecht, 1995

368 pages. £114.00

ISBN 0792335228

This book contains a compilation of contributions which were presented at a NATO Advanced Research Workshop held in Drymen, Scotland, in mid-1994 to address the above title. The Workshop covered a diverse range of subjects, presented by experts in their respective fields, and included contemporary synthetic chemistry of organo-transition metal clusters, NMR studies of the dynamics of molecular rearrangements, surface chemistry, theory and modelling. During the Workshop these different aspects were focused into discussion themes encompassing, in particular, (i) the cluster–surface analogy (including analogies between the structure of chemisorbed species and related ligands on metallic clusters, the size of metal clusters required to mimic surface phenomena on bulk metal surfaces, the role of defect sites on metal surfaces in catalysing chemical reactions and the connection to the special bonding properties of sites on metal clusters having lowest metal–metal coordination) and (ii) dynamic processes (including mechanisms of fluxional behaviour

in the liquid phase and their relationship to diffusional processes on extended surfaces, and the role of mobile precursors for dissociation or chemisorption on extended metals and on clusters).

The contributed papers are without exception well presented in a generally consistent style and give a detailed state-of-the-art overview of this interfacial area of chemistry. The editor, contributors and publisher are to be complimented on the speedy publication of the work (May 1995). However, in consideration of the spirit and nature of these NATO Workshops, I have to say that I find it disappointing that the opportunity was not taken to include, within the volume, a report of the conclusions and recommendations emanating from the thematic discussions referred to above. Such information would have been of particular benefit to the many research chemists who did not participate in the Workshop, but who are planning future work in this area. Nevertheless, overall the book represents a very valuable contribution to this multidisciplinary field which is of continuing interest in the context of scientific and intellectual challenges and from the point of view of potential applications. Unfortunately the price of the volume is most likely to restrict its sales to libraries and to those with specialist interest in the subject.

R WHYMAN

University of Liverpool, UK