

# Index

## A

Anions, Zintl 91  
Antimony 40, 121  
Antiprism 11  
Arachno borane 5, 7  
Aromaticity 9  
Arsenic 4, 119  
Azaboranes 9

## B

Ba-Ge system 31  
Benzene 2  
Bismuth 40, 121  
Blue sodium ammonia 26  
Boranes, aromaticity 8  
    polyhedral 2, 5  
Brunauer–Emmett–Teller (BET) surface 140

## C

Cage compound 91  
Carborane 14  
Cation radii 25  
CdS 150  
CdTe 150  
Chalcogenide framework 139  
Chalcogenides 133  
Clusters 1, 59, 91  
Cyclooctatetraene dianion 8  
Cyclopentadienide anion 8  
Cyclopropenyl cation 8

## D

Density functional theory (DFT) 13  
Diamond–square–diamond 84  
Dodecahedrane 92

## E

EDMHEABr 141  
Electron-deficient multicenter bonding 60  
Exo-bonded substituents 80

## F

Frank–Kasper polyhedron 29  
Fullerenes, functionalized 92

## G

Gallium 12  
Ge/Si alloy semiconductors 143  
Germanium 102  
    clusters/compounds 3, 133  
    cubic mesostructured 136  
    hexagonal mesoporous 138  
    mesoporous forms 135  
Germanium-based chalcogenide materials 149  
Group 14 25  
Group 15 25

## H

Henicosaphosphide 101  
Heptaheteronortricyclanes 40  
Heptaphosphanortricyclane 116  
Heptapnicanortricyclane 100  
Hirsch rule 8  
Homoatomic polyanions 25  
HSAB principle 28  
Hückel rule 8  
Hydrogenpolyphosphides 117

## I

Intermetalloid clusters 91  
Interstitial atoms 17

**J**

Jellium model 1, 3, 12  
Jemmis–Schleyer interstitial electron rule 8

**K**

Klechkovskii rule 15

**L**

Lead 61, 113  
Lewis acids 2

**M**

Madelung rule 15  
Metal clusters 1  
Metal/Ge-based semiconductors 146  
Metallic salts 43  
Metalloid clusters 92  
Mooser–Pearson extended (8–N) rule 2, 3

**N**

$\text{Na}_2\text{Tl}$  4  
 $\text{Na}_4\text{Pb}_9$  2  
Nanodots 135  
Nesting doll cluster 20  
Nido borane 5  
NMR, dynamic 59  
Nortricyclane 39  
Nucleus independent chemical shift (NICS) 9

**O**

Organostannanes 68

**P**

Pauli-like paramagnetism 43  
Pentagondodecahedron 121  
Pentel 91, 94  
Pentelide 41  
Phosphacyclopentadienide 116  
Phosphorus 116  
Polypentelides 49  
Polyphosphides 38

Polystannide clusters, exo-bonded  
substituents 83

Posttransition metal clusters 10

Prismane 92

Pseudonoble gases 21

**S**

Sandwich complex, infinite 32  
Self-assembly 133  
Semiconductor, mesoporous 133  
Silicide 35  
Silicon 33, 101  
Sn NMR 59  
Solid state 25  
Solution 25  
Strontium 31  
Stuffed diamond structure 4

**T**

Tetrahydrane 92  
Tetrathiafulvalene 149  
Tetrel 91, 94  
Tetrelide star 36  
Thallium 12  
Tin 108  
Trishomocubane 40  
Tropylium cation 8

**V**

Valence electrons 3  
concentration 27

**W**

Wade–Mingos rules 1, 5

**Z**

Zintl compound 133  
Zintl ions 1, 59  
anions 91, 116  
Zintl–Klemm concept 2, 3, 27  
ZnS 150