

INDEX

| | | |
|---------------------------------|----------|---|
| A | | |
| Acid rain | 409, 410 | |
| Acidic dehydration of alcohols | 388 | |
| Activating groups | 403 | |
| Acyclic compounds | 339 | |
| Alicyclic compounds | 339 | |
| Alkali metals | 300 | |
| – atomic radii | 300 | |
| – chemical properties | 301 | |
| – halides | 303 | |
| – hydration enthalpy | 300 | |
| – hydroxides | 303 | |
| – ionic radii | 300 | |
| – ionisation enthalpy | 300 | |
| – oxides | 303 | |
| – physical properties | 300 | |
| – reactivity towards air | 301 | |
| – reactivity towards dihydrogen | 302 | |
| – reactivity towards halogens | 302 | |
| – reactivity towards water | 302 | |
| – reducing nature | 302 | |
| – salts of oxoacids | 303 | |
| – solution in liquid ammonia | 302 | |
| – uses | 302 | |
| Alkaline earth metals | 306 | |
| – atomic radii | 306 | |
| – carbonates | 309 | |
| – chemical properties | 308 | |
| – electronic configuration | 306 | |
| – halides | 309 | |
| – hydration enthalpies | 307 | |
| – hydroxides | 309 | |
| – ionic radii | 306 | |
| – ionisation enthalpies | 307 | |
| – nitrates | 309 | |
| – oxides | 309 | |
| – physical properties | 307 | |
| – reactivity towards air | 308 | |
| – reactivity towards halogens | 308 | |
| – reactivity towards water | 308 | |
| – reducing nature | 308 | |
| – salts of oxoacids | 309 | |
| – solution in liquid ammonia | 308 | |
| – uses | 308 | |
| – sulphates | 309 | |
| Alkanes | 374 | |
| – aromatisation | 382 | |
| – chain isomerism | 386 | |
| – combustion | 381 | |
| – controlled oxidation | 382 | |
| – geometrical isomerism | 386 | |
| – halogenation | 380 | |
| | | – halogenation mechanism 381 |
| | | – Isomerisation 382 |
| | | – ozonolysis 391 |
| | | – pyrolysis 382 |
| | | – reaction with steam 382 |
| | | Alkenes 384 |
| | | – addition of dihydrogen 388 |
| | | – addition of hydrogen halides 389 |
| | | – addition of hydrogen halides, mechanism 389 |
| | | – addition of sulphuric acid 390 |
| | | – addition of water 391 |
| | | – chemical properties 388 |
| | | – geometrical isomers 386 |
| | | – oxidation 391 |
| | | – physical properties 389 |
| | | – position isomerism 386 |
| | | – preparation 387 |
| | | – structural isomerism 385 |
| | | Alkynes 392 |
| | | – acidic characters 394 |
| | | – addition of dihydrogen 395 |
| | | – addition of halogens 395 |
| | | – addition of hydrogen halides 395 |
| | | – addition of water 395 |
| | | – addition reaction 394 |
| | | – cyclic polymerisation 396 |
| | | – linear polymerisation 395 |
| | | – polymerisation 395 |
| | | – preparation 393 |
| | | Allotropes of carbon 325 |
| | | Aluminium 317, 318, 322 |
| | | Aluminium, uses 322 |
| | | Angle of torsion 384 |
| | | Anti Markovnikov rule 390 |
| | | Arenes 396 |
| | | Arenium ion, formation 401 |
| | | Arenium ion, stabilisation 401 |
| | | Aromatic compounds 339 |
| | | Aromaticity 399 |
| | | Atmospheric pollution 407 |
| B | | |
| | | Baking soda 306 |
| | | Balancing of redox reaction 274 |
| | | Benzene 396 |
| | | – Friedel-crafts alkylation 400 |
| | | – chemical properties 400 |
| | | – combustion 402 |
| | | – electrophilic substitution 400 |
| | | – Friedel–crafts acylation 400 |
| | | – mechanism of electrophilic substitution 401 |
| | | – nitration 400 |

| | | |
|---|---------------|-----|
| INDEX | | 429 |
| Functional group isomerism | 348 | |
| Functional groups | 340 | |
| G | | |
| Gaseous air pollutants | 407 | |
| Global warming | 408 | |
| Graphite | 326 | |
| Green chemistry | 419 | |
| Green house effect | 328, 408 | |
| Group 13 elements, atomic radii | 317 | |
| – chemical properties | 318 | |
| – electronegativity | 318 | |
| – ionisation enthalpy | 317 | |
| – oxidation states | 318 | |
| – physical properties | 318 | |
| – reactivity towards acids | 319 | |
| – reactivity towards air | 319 | |
| – reactivity towards alkalis | 319 | |
| – reactivity towards halogens | 320 | |
| – trends in chemical reactivity | 318 | |
| Group 14 elements, chemical properties | 324 | |
| – covalent radius | 323 | |
| – electronegativity | 323 | |
| – electronic configuration | 323 | |
| – ionization enthalpy | 323 | |
| – oxidation states | 324 | |
| – physical properties | 323 | |
| – reactivity towards halogens | 324 | |
| – reactivity towards oxygen | 324 | |
| – reactivity towards water | 324 | |
| – trends in chemical reactivity | 324 | |
| H | | |
| Heavy hydrogen | 285 | |
| Heterolytic cleavage | 349 | |
| Homologous series | 340, 374 | |
| Homolytic cleavage | 349, 350 | |
| Hückel rule | 399 | |
| Hydrate formation | 291 | |
| Hydration enthalpy s-block elements | 300 | |
| Hydrides | 288 | |
| – covalent | 288 | |
| – interstitial | 289 | |
| – ionic | 288 | |
| – electron precise | 288 | |
| – electron rich | 288 | |
| – metallic | 289 | |
| – molecular | 288 | |
| – non-stoichiometric | 289 | |
| – saline | 288 | |
| Hydrogen economy | 295 | |
| Hydrogen peroxide | 293 | |
| – chemical properties | 294 | |
| – oxidising action in acidic medium | 294 | |
| – oxidising action in basic medium | 294 | |
| – physical properties | 293 | |
| – preparation | 293 | |
| – reducing action in acidic medium | 294 | |
| – reducing action in basic medium | 294 | |
| – storage | 294 | |
| – structure | 294 | |
| – uses | 294 | |
| Hydrogen storage | 289 | |
| Hydrogenation | 378 | |
| Hydrolysis | 291 | |
| Hyperconjugation | 355 | |
| I | | |
| Ice structure | 290 | |
| Inductive effect | 352 | |
| Industrial waste | 417 | |
| Inert pair effect | 315 | |
| Inner core | 315 | |
| International standard for drinking water | 415 | |
| Ionisation enthalpy, s-block elements | 300 | |
| Isomerism | 348, 374 | |
| Isotopes | 285 | |
| K | | |
| Kekulé, structure | 397 | |
| Kharash effect | 390 | |
| Kolbe's electrolytic method | 379 | |
| L | | |
| Lassaigne's test | 362 | |
| Liquified petroleum gas (LPG) | 373 | |
| Lithium | 300, 301, 304 | |
| – anomalous properties | 304 | |
| – difference from alkali metals | 304 | |
| – points of similarities with magnesium | 304 | |
| M | | |
| Markovnikov rule | 389 | |
| Meta directing groups | 403 | |
| Metal activity series | 267 | |
| Metal carbonyles | 328 | |
| Metamerism | 349 | |
| Methyl carbocation | 350 | |
| Molecular models | 338 | |
| Monomers | 392 | |
| N | | |
| Newman projections of ethane | 383 | |
| Nomenclature | 340 | |
| – alkanes | 374 | |
| – alkenes | 384 | |
| – arenes | 396 | |
| – IUPAC system | 340 | |
| – of substituted benzene compounds | 346 | |
| Non-benzenoid compound | 339 | |
| Nucleophiles | 350 | |
| Nucleophilic reaction | 350 | |

O

| | |
|------------------------|----------|
| Ortho directing groups | 402 |
| Orthoboric acid | 320 |
| Oxidant | 269 |
| Oxidation number | 267 |
| Oxidation state | 268 |
| Oxidation | 265, 268 |
| Ozone hole | 413 |

P

| | |
|----------------------------------|---------------|
| Para directing groups | 402 |
| Particulate pollutant | 411 |
| Permanent hardness | 292 |
| - removal by calagon's method | 292 |
| - removal by ion exchange method | 292 |
| - removal by synthetic resins | 292 |
| Peroxide effect | 390 |
| Photochemical smog | 413 |
| Photochemical smog control | 413 |
| Photochemical smog, effects | 412 |
| Photosynthesis | 328 |
| Plaster of paris | 311 |
| Polar reaction | 350 |
| Polymerisation | 391 |
| Portland cement | 312 |
| Position isomerism | 348 |
| Potassium | 300, 301, 306 |
| Producer gas | 327 |
| Protium | 285 |

Q

| | |
|------------------------------------|-----|
| Quantitative analysis for carbon | 363 |
| Quantitative analysis for halogens | 367 |
| Quantitative analysis for hydrogen | 363 |
| Quantitative analysis for nitrogen | 364 |
| Quick lime | 310 |

R

| | |
|--------------------------------|---------------|
| Redox couple | 278 |
| Redox reactions | 263, 269, 291 |
| Redox reactions, type | 270 |
| Reducing Agent | 265, 269 |
| Reductant | 269 |
| Reduction | 265, 269 |
| Resonance effect | 354 |
| Resonance stabilisation energy | 353 |
| Resonance structure | 353 |
| R _f value | 361 |
| Rotamers | 383 |

S

| | |
|--------------------------------|-----|
| Sawhorse projections of ethane | 383 |
| Sigma complex | 401 |
| Silicates | 330 |
| Silicic acid | 325 |

| | |
|------------------------------|----------|
| Silicon dioxide | 328 |
| Silicones | 329 |
| Slaked lime | 311 |
| Smog | 411 |
| Sodium carbonate | 304 |
| Sodium carbonate, properties | 305 |
| Sodium chloride | 305 |
| Sodium hydrogencarbonate | 306 |
| Sodium hydroxide | 305 |
| Soil pollution | 416 |
| Standard electrode potential | 278, 279 |
| Steam distillation | 359 |
| Stereoisomers, alkenes | 349 |
| Stereoisomerisms | 349 |
| Stock notation | 269 |
| Straight chain hydrocarbons | 341 |
| Stratospheric pollution | 413 |
| Structural isomerism | 348 |
| Structural isomers, alkanes | 375 |
| Structure of double bond | 384 |
| Structure of triple bond | 393 |
| Sublimation | 356 |
| Syngas | 286 |
| Synthesis gas | 286, 327 |

T

| | |
|------------------------|----------|
| Temporary hardness | 292 |
| Test for halogens | 363 |
| Test for nitrogen | 362 |
| Test for phosphorous | 363 |
| Test for sulphur | 363 |
| Tortional strain | 383, 384 |
| Trans-isomer | 386 |
| Tritium | 285 |
| Tropospheric pollution | 407 |

W

| | |
|--------------------------------|-----|
| Washing soda | 304 |
| Water, amphoteric nature | 291 |
| Water, chemical properties | 291 |
| Water, hard | 291 |
| Water, heavy | 294 |
| Water gas | 327 |
| Water pollution | 414 |
| Water pollution, causes | 414 |
| Water, hydrate formation | 291 |
| Water, in hydrolysis reactions | 291 |
| Water, physical properties | 289 |
| Water, Soft | 291 |
| Water, structure | 290 |
| Water-gas shift reaction | 286 |
| Wurtz reaction | 379 |

Z

| | |
|----------|-----|
| Zeolites | 330 |
|----------|-----|