## 40 principles of Chemistry (Mini case collection)

PROENGINEER

No,	Principle	Case study	No,	Principle	Case study
1	Segmentation	Mass spectrometry: Small molecules determine the structure Ultra-dispersant	21	Skipping	Extinguishing crystals to produce thermodynamically unstable forms
2	Taking out	Separate distillation, chromatography, crystal	22	Blessing in disguise	Use of exhaust heat
3	Local quality	Surfactants and charge transfer complexes	23	Feedback	•PhPumps that are controlled by
4	Asymmetry	The shape of the active substance (stereoethermia)	24	Intermediary	Catalytic and dye surfaces
5	Merging	Nitrocellulose and parallel synthesis	25	Self-service	Photochromic glass
6	Universality	•UvDissolving power of monomers and ureas in inks	26	Copying	– Electron microscopy
7	Nested doll	Encapsulation/thylate compound	27	Cheap short-living objects	Disposable piped
8	Anti-weigh	Decompression distillation	28	Mechanics substitution / Another Sense	Effects of microwaves
9	Preliminary anti-action	Used as a protective group under the effects of organic synthesis under argon/nitrogen	29	Pneumatics and hydraulics	Squeezing and ware
10	Preliminary action	Addition of additives	30	Flexible shells and thin films	Surface treatment
11	Beforehand cushioning	Explosion-proof system	31	Porous materials	Zeolite
12	Equipotentiality	Catalysis and enzymes	32	Color changes	<ul><li>Light-to-light lens</li></ul>
13	The other way round	Reverse chromatography for measuring surface characteristics	33	Homogeneity	Phase transition reaction
14	Sphericity- Curvature	Nanotube graphite and fuller	34	Discarding and recovering	Silica gel for drying
15	Dynamics	Aromatic attributes for making molecules more flexible	35	Parameter changes	Sublimation/Drying/Evaporation
	Partial or excessive actions	<ul> <li>30%Beginning with the reaction of the gradual100%Aiming to</li> </ul>	36	Phase transitions	Isophysophy of sulfur
17	Another dimension	Cross-linked polymers	37	Thermal expansion	Explosives
18	Mechanical vibratio	Spectroscopy	38	Strong oxidants	Oxidation of bleach and electrodes
19	Periodic action	Impregnated mixing	39	Inert atmosphere	− Vacuum
	Continuity of useful action	Citric acid circuit	40	Composite materials	Co-weighted composites and alloys

References: Billy Grierson: 40 Principles-Chemical Illustrations, riz-journal