Lib sc. 1; 1964; PAPER L.

Drug: Depth Classification.

(Classification problems. 6). (Design series. 5).

S R RANGANATHAN and A NEELAMEGHAN, *Documentation Research and Training Centre, Bangalore* 3.

Works out a scheme *for* the classification of the subjects going with the (BC) "F56 Technology of Drug" and the (BC) "LX3 Pharmacology", based on the design principles outlined in Paper A of this volume. The schedules given are confined to the first characteristics for [1P] only. A single set of (QI) is given for the subjects going with either of the (BC) Technology of Drug or the (BC) Pharmacology. Gives an alphabetical index to the schedule. Gives a classified list of 39 examples classified according to the above scheme.

ABBREVIATIONS USED

(A1)	= Array of Order 1	(MC)	= Main Class
(A2)	= Array of Order 2	[1P]	= Round 1 of Personality
(A3)	= Array of Order 3	(QI)	= Quasi Isolate(s)
(AD)	= Alphabetical Device	Tel	= Telescoping of
(BC)	= Basic Class	Tel 1	= Telescoping 1 of
(CC)	= Colon Classification	Tel 2	= Telescoping 2 of

1 Introduction

This paper demonstrates the construction of a Scheme *for* the Classification of subjects going with the (BC) Technology of Drugs, and the (BC) Pharmacology. The methodology is based on the principles given in Paper A of this volume [2]. A step by step procedure for the construction of such schedules has also been recently outlined [1].

This paper confines itself to the schedule of [1P]. The schedule is provisional.

2 Definition

A drug is a substance used to treat illness, to protect against disease, or to promote better health. Therefore, we may have to include in Pharmacology not only the study of the effect of conventional chemicals used for medication on the living organism but also the study of the effect of radiation such as heat, light, X-ray, cobalt ray, ultraviolet light, sound, and also of vitamin, hormone, etc, on the living organism.

3 'Chemistry' and 'Technology'

The (MC) E Chemistry in CC comprehends subjects which are primarily devoted to the theoretical study of chemistry and the techniques in chemistry. The substance studied comes in only as a sort of guinea pig.

The (MC) F technology in CC, on the other hand, comprehends subjects primarily devoted to the study of a substance or substances that is, its production, chemistry, properties, etc.

Therefore, a subject such as 'pharmaceutical chemistry' or the chemical study of a specific drug or of drugs is to go with the (BC) F56 rather than in the (MC) E.

Thus, all subjects dealing with the chemistry of drugs and the production of drugs will be found together in F56 instead of being scattered partly in E Chemistry and partly in F56 Technology of drugs.

31 Basic Class

The (BC)s in CC with which this paper is concerned are

F56 = Technology of drug

LX3 = Pharmacology.

4 Common (QI)

From a study of the documents on drugs it is noted that some of the (QI) enumerated in Sec 5 are common to subjects going with the (BC) Technology of drugs, and the (BC) Pharmaco-

logy. Therefore, a single set of (QI) is given for the subjects going with either of the (BC). It is believed that most of the (QI) will be valid for the classification of the subjects going with the (BC) LX8 Pharmacy also.

5 First Characteristics

The following are some of the first characteristics used as the basis for the classification of drugs as a whole in respect of [1P]. These (QI) have been selected by blending the *a priori* and the pragmatic approaches.

50 TABLE 1. QUASI ISOLATES

S N	Quasi Isolate	S N	Quasi Isolate
1	By organism action upon	12	By LD_{50}
2	By organ/disease affected	13	By untoward reaction
3	By kind of action	14	By stability
4	By empirical formula/ Chemical composition	15	By crystal structure
		16	By colour
5	By chemical structural group	17	By solubility
6	By functional group	18	By melting point
7	By source	19	By molecular weight
8	By degree of purity	20	By optical property
9	By physical form of drug	21	By method of production
10	By route of administration	22	By name
11	By duration of action	23	By brand

The meaning of the above terms may be inferred by applying the Canon of Enumeration to the schedule given in Sec 7.

51 SEQUENCE OF (QI)

The sequence in which the (QI) are enumerated in Table 1 of Sec 50, is taken, for the time being, to be the one satisfying the Wall-Picture Principle.

The sequence chosen for the (QI) is generally helpful whether the (BC) is Technology of Drugs, or whether it is Pharmacology:

We may also note the following broad groups of the (QI).

(QI) 1 to 7 occur in subjects going with the (BC) Drug technology as well as those going with the (BC) Pharmacology.

(QI) 8 to 14 occur more frequently in subjects going with the (BC) Pharmacology.

(QI) 15 to 21 occur more frequently in subjects going with the (BC) Technology of Drug.

(QI) 22 and 23 occur in subjects going with the (BC) Technology of Drugs as well as those going with the (BC) Pharmacology.

52 ALLOCATION TO SECTORS

The provisional allocation of the (QI) to the sectors is given at the head of Sec 7. The (QI) sequence decided upon in the idea plane is maintained. In each block, the name of the (QI) is followed by the symbol for the sector to which it is allocated. The blocks are separated by a hyphen (-). If any document warrants the use of two or more blocks the resulting isolate will be a Super-Imposed Isolate in [IP].

The sectors (S — 9*a*), and (S — 91) are not used. This is due to the exigency of (AD) coming into play in the last sectors of the facet formula. Sectors (S — *za*) to (S — *z*A) are also not used. Because these sectors are earmarked for [IP2] and [IP3], that is Organ [3]. As the entities in the universe of drug do not have rigidity of shape, they do not have organs.

The sectors have been so chosen that the more frequently occurring (QI), irrespective of the (BC), get a one-digited or a two-digited sector, whereas the less frequently occurring (QI) get a three-digited sector.

6 Index to Schedule

Days (zzE)
Deamination (Zx7)
Decalin (9J5)
Decane (9C92)
Decrease (Zb)
Degradation (Zx91)
Dehalogenation (Zx94)
Dehydration (Zx95)
Depsidam (U163)
Depsidones (U163)
Dermotropic (ZB8)
Destruction (Zh7)
1, 5, 7-Octatrien-3-yne (9F6)
Detoxification (Zx1)
Dextrorotation in
  alcohol Z9g1
  chloroform Z9r1
  water Z9p1
1, 2-Diazepines (U121)
1, 3-Diazepines (U122)
Diazine (S1)
Diazo comp (9f4)
Dibenzacridine (K82)
Dibenz
  [a, c] anthracene (9TR)
  [a, h] anthracene (9TS)
Dibenzo
  furan (ES2)
  furans (ES)
  thiapyran (M3)
  thiophens (F4)
  xanthenes (L66)
Dibenzyl (957)
Dicyclopentadiene (9K62)
Dihydro
  furan (E12)
  pyran (L14)
  pyridine (K12)
  thiophen (F12)
Dimethylbenzene (9QD)
Diolefins (9E)
Dioxalans (G31)
1, 2-Dioxan (S71)
1, 3-Dioxan group (S72)
1, 4-Dioxan group (S73)
Dioxane (S7)
Dioxazines (T3)
Dioxazole (H4)
Dioxole group (G3)
Dioxoles (G31)
Diphenylmethane (9S6)
Dipiperidyls (K16)
Dipping (zG2)
Dipyridonaphthalenes (P15)
Dipyrromethane (Q311)
Disaccharide (9N2)
Diterpene group (X51)
Diterpene (X5)
1, 2-Dithian (S71)
Dithiadiazole (J6)
Dithiazines (T3)
Dithiazole (H5)
Dithiolans (G35)
Dithiole (G35)
n-Dodecylbenzene (9QM)
Dosage form (zZa)
Duodenum tube (zB7)
Duration (zz1)
Dust (zZg)
Dyes (Q)
  from phenazine (SA)
  from phenoxazine (SA)

Echinopsine (X211)
Eicosane (9C96)
Eject (Zk1)
Enzyme (Y982)
  inactivation by (p)
Epoxide (9c3)
Ergot alkaloid (X74)
Erythrina alkaloid (X8)
Ester (9d3)
  as solvent ZZv
Ethane (9C2)
Esterification (Zx5)
Ether (9c2)
  as solvent ZZr
Ethylbenzene (9Q4)
Ethylene (9D2)
Exposure (zG)
Extraction Z5

Lactonic group (X82)
Lactones (U521)
Laevo rotation in
alcohol Z9*q*2
chloroform Z9*r*2
water Z9*p*2
Lethal range (*zza*)
Lichen (7)
Lilolidine (P34)
Limonene (9H7)
Linear
pigments (Q31)
polynuclear
cyanine (Q15)
merocyanine (Q15)
tri-
cyanine (Q15)
merocyanine (Q15)
Liquid ZZA
as dosage form (*zZb*)
to gas (Z*j*5)
Loosen (ZK1)
Low
melting point ZC
mol weight Z9C
Lozenge (*zZf*)
Lupamina (X415)
Lupinane group (X41)
Lupinine alkaloid (X411)

Macrolides (U524M)
Maltose (9N21)
Maroon ZZ*A*
Melting point ZA
Membrane permeation (Z*t*)
Mesitylene (9Q8)
Mercaptan (9*j*6)
Mercaptopurine (V14)
Merocyanine (Q14)
Metabolic reaction (Z*x*)
Metal (Y191)
Inactivation by (*s*)
Metallic comp (9*b*)
Methane (9C1)
p-Methane (9G7)
3-*p*-Methane (9H5)
Method of production Z1
3-Methylchlorobenzene (9T*p*)
Methylnaphthalenes (9T4)
Microorganism (2)
Minutes (*zz*C)
Mixture (*z*Z5)
Molecular weight Z9A
Monoclinic ZZQ
Monocyclic (S51)
furans (E1)
hydrocarbon (9G)
hydrofurans (E1)
hydrothiophens (F1)
pigments (Q4)
thiophens (F1)
Mononitrile (9*d*8)
Mono-olefins (9D1)
Monosaccharide (9N1)
Morphine alkaloid (X61)
group (X6)
Morphines (SS14)
Myxomycetes (ZF1)

N
and As with O
in 6-memb ring (R43)
and O in
4-memb ring (C4)
5-memb ring (R22)
6-memb ring (R41)
and P with O
in 6-memb ring (R42)
and S
in 4-memb ring (C5)
N atom
Four
in 7-memb ring (U14)
in 9-memb ring (U31)
in 10-memb ring (U41)
in more than 10-memb ring (U51)
One
in 7-memb ring (U11)
in 8-memb ring (U21)
in 10-memb ring (U511)
Three
in 7-memb ring (U13)

Sustained (zz3)
Synergise (Zd)
Synthesis Z4
  partial Z8
Syrup (zZn)

Tablet (zZd)
Tannins (L43)
Tellurophen (F7)
Temperature (Zb4)
Ten-memb ring (U4)
  More than (U5)
Terpene ZZp
Terpinene (9H8)
Tetragonal ZZN
Tetramydrofuran (D15)
Tetrahydroindole (D24)
1, 2, 3, 4-Tetrahydronaphthalene (9T3)
Tetrahydro
  pyran (L18)
  pyridine (K14)
  thiophen (F14)
Tetralin (9T3)
Tetramethylbenzene (9QG)
Tetraphenyl
  ethylene (9SM)
  methane (9SG)
Tertiary
  amino comp (9f13)
Tetrazines (T5)
Tetrazoles (J4)
Thebain (X64)
Thiachroman (M2)
Thiadiazines (T2)
Thiadiazoles (H3)
  1, 2, 3- (H31)
  1, 2, 4- (H35)
  1, 2, 5- (H34)
  1, 3, 4- (H36)
Thiapyran (M1)
Thiatriazoles (J5)
Thiazine (S6)
  1, 3- (S613)
  1, 4- (S614)
Thiazoline (G72)
Thiazole (G71)
  group (G7)
Thiazolidine (G73)
Thiazolopyrimidines (V23)
Thiepin (U171)
Thietan (B22)
Thiiran (B12)
Thio-
  carbamate (9jK)
  cyanate (9jG)
  ether (9j7)
  lutin (G351)
  naphthen (F21)
  naphthens (F2)
  phen (F11)
    Monocyclic (F1)
  urea (9jH)
Three-memb ring (B)
Thujene (9J6)
Thujone (9J1)
Tocopherol (L41)
Toluene (9Q2)
Topical application (zH)
Toxoplasma (ZM6)
Transient (zz4)
Trematoda (ZP3)
Triacontane (9C97)
Triacontene (9D92)
Triazines (T1)
Triazole (H1)
  1, 2, 3- (H11)
  1, 2, 4- (H14)
Trichloroethylene (ZZm3)
Trichomonad (ZM4)
Triclinic ZZR
Tricyclene (9K2)
Tricyclic
  alicyclic hydrocarbon (9K)
  pyrroles (D7)
  system
    containing thiophen ring (F5)
    with one furan nucleus (E6)
Trigonal ZZS
Trimethylbenzene (9Q7)
Triolefins (9E)
Trioxane (T4)

Triphenyl (9S3)
1, 3, 5-Triphenylbenzene (9S5)
Triphenylene (9TK)
Triphenylmethane (9SD)
Trisaccharide (9N3)
Trithian (T4)
Tropane group (X1)
Tropanes (X14)
Troplone (9U7)
Turpentine ZZ*p*1
Two
  hetero rings
    fused to aromatic system (P1)
    fused through
      adjacent C atom (P2)
  N atoms
    in 4-memb ring (C3)
  O atoms
    in 4-memb ring (C1)
  S atoms
    in 4-memb ring (C2)

Ultra-
  sound (YC35)
  violet
    light (YC52)
    maxima Z9*c*
Undecane (9C93)
Unfused
  furan nucleus (E16)
  pyrrole rings (D16)
  thiophen rings (F16)
Unreduced pigments (Q4)
Unsaturated
  alicyclic hydrocarbon (9H)
  aliphatic hydrocarbon (9D)
  tricyclic alicyclic
    hydrocarbon (9K6)
Unstable to
  acid
    at room temp (*b*4)
    Heated (*c*4)
  alkali
    at room temp (*e*4)
    Heated (*f*4)
  heat (*h*4)
Unsubstituted amide (9*d*4)
Untoward reaction (*zn*)
Urea comp (9*f*7)
Usnic acid (E565)

Vaginal administration (zF)
Veratrum alkaloid (X523)
Very high mol weight Z9F
Vinylacetylene (9F4)
Violet ZZ21
Virus (ZB)
Viscerotropic (ZB2)
Vitamin B (WX4)
Vitamin B12 (WX3)
Volume (Z*h*63)

Water
  as solvent ZZ*g*1
  optical rotation in Z9*p*
Weeks (*zz*F)
White ZZ2

Xanthen (L61)
Xanthens (L6)
Xanthones (L63)
Xanthydrols (L62)
Xylene (9Q3)

Yellow ZZ25

7 Schedule

Formula for the (QI) sequence:

In words.—(BC), (Organism affected)—(Organ/disease affected)—(Kind of action)—(Empirical formula/chemical composition)—

(Chemical structural group)—(Functional group/derivative)—(Source)—(Degree of purity)—(Physical form of drug)—(Route of administration)—(Duration of action)—(LD_{50})—(Untoward reaction)—(Stability)—(Crystal structure)—(Colour)—(Solubility)—(Melting point)—(Molecular weight)—(Optical property)—(Method of production)—(Name)—(Brand).

In symbols.—F56 or LX3, (S—(ZA))—(S-(Z1))—(S-(*Za*))—(S-(9A) to (A))—(S-(9*a*))—(S-(1))—(S-(*z*Z1))—(S-(*z*Z*a*))—(S-(*z*A))—(S-(*zz*1))—(S-(*zza*))—(S-(*za*))—(S-(*a*))—(S-ZZA)—(S-ZZ1)—(S-ZZ*a*)—(S-ZA)—(S-Z9A)—(S-Z9*a*)—(S-Z1)—(S-A)—(S-9A).

Annotation.—The (Q1) Empirical formula/chemical composition has not been assigned a separate sector. It is included in (S-(9A) to (A)) at YZA.

9A	**By brand**	**Z9*a***	**By optical property**
	To be got by (AD) (*illustrative*)		*Tel* (A2) *into* (A1) *begins*
9B-A	Bacitracin of Abbott	Z9*c*	Lambda maxima in UV
9B-L	Bacitracin of Lilly		*Specific maximum to be got by adding the given figure.* (*illustrative*)
9B-P	Bacitracin of Pfizer	Z9*c*250	250 mμ
9CH	Chloromycetin	Z9*c*260→270	260 to 270 mμ
9S	Seromycin	Z9*f*	Lambda maxima in IR
A	**By name**	Z9*n*	Optical rotation
	To be got by (AD) (*illustrative*)		*Tel* (A3) *into* (A2) *begins*
B	Bacitracin	Z9*p*	In water
R	Reserpine	Z9*p*1	Dextro
T	Tolbutamide	Z9*p*2	Laevo
		Z9*q*	In alcohol
Z1	**By method of production**	Z9*q*1	Dextro
		Z9*q*2	Laevo
	Tel (A2) *into* (A1) *begins*	Z9*r*	In chloroform
Z4	Synthesis (Chemical)	Z9*r*1	Dextro
Z5	Extraction (Direct)	Z9*r*2	Laevo
Z7	Fermentation		*Tel* (A3) *into* (A2) *ends*
Z8	Partial synthesis and partial fermentation		*Tel* (A2) *into* (A1) *ends*
	Tel (A2) *into* (A1) *ends*		

Z9A **By molecular weight**

Tel (A2) *into* (A1) *begins*

Z9C Low
Z9D High
Z9F Very high
Z9M For given molecular weight
Given molecular weight number to be added (illustrative)
Z9M600 600 mg
Z9M1000→ 2500 1000 to 2500 mg.
Tel (A2) *into* (A1) *ends*

ZA **By melting point (in°C)**

Tel (A2) *into* (A1) *begins*

ZC Low
ZD High
ZM For given melting point
Given melting point number to be added (illustrative)
ZM105 105° C.
ZM110→115 110 to 115° C.
Tel (A2) *into* (A1) *ends*

ZZ*a* **By solubility (solvent)**

Tel (A2) *into* (A1) *begins*

ZZ*b* Polar solvent
ZZ*c* Non-polar solvent
ZZ*f* For specific solvent
Tel 1 (A3) *into* (A2) *begins*
ZZ*g* Inorganic
ZZ*g*1 Water
ZZ*g*3 Acid
ZZ*g*4 Ammonia
ZZ*g*6 Sulphur dioxide
ZZ*h* Organic
Tel 2 (A3) *into* (A2) *begins*
ZZ*j* Aliphatic hydrocarbon
ZZ*k* Aromatic hydrocarbon
ZZ*m* Chlorinated hydrocarbon
ZZ*m*2 Perchloroethylene
ZZ*m*3 Trichloroethylene
ZZ*m*4 Carbon tetrachloride
ZZ*n* Nitrohydrocarbon
ZZ*n*6 Nitromethane
ZZ*n*7 Nitrobenzene
ZZ*p* Terpene
ZZ*p*1 Turpentine
ZZ*q* Alcohol
ZZ*r* Ether
ZZ*s* Aldehyde
ZZ*t* Ketone
ZZ*u* Organic acid
ZZ*v* Ester
ZZ*x* Sulphur compound
Tel 2 (A3) *into* (A2) *ends*
Tel 1 (A3) *into* (A2) *ends*
Tel (A2) *into* (A1) *ends*

ZZ1 **By colour**

Tel (A2) *into* (A1) *begins*

ZZ2 White
ZZ21 Violet
ZZ22 Indigo
ZZ23 Blue
ZZ24 Green
ZZ25 Yellow
ZZ26 Orange
ZZ27 Red
ZZ3 Pink
ZZ4 Maroon
ZZ5 Brown
ZZ6 Black
ZZ8 Colourless [favoured]
Tel (A2) *into* (A1) *ends*

ZZA **By crystal structure**

Tel (A2) *into* (A1) *begins*

ZZB Non-crystalline (Amorphous)
ZZC Semi-solid

ZZE Liquid
ZZG Crystalline [Favoured]
Tel (A3) *into* (A1) *begins*
ZZH Needle
ZZJ Plate
ZZK Prism
ZZM Cubic
ZZN Tetragonal
ZZP Orthorhombic
ZZQ Monoclinic
ZZR Triclinic
ZZS Trigonal
ZZT Hexagonal
Tel (A3) *into* (A1) *ends*
Tel (A2) *into* (A1) *ends*

(*a*) **By stability**
Tel (A2) *into* (A1) *begins*
(*b*) In acid at room temperature
(*b*1) Stable
(*b*4) Unstable
(*c*) In acid heated (10 min at 70° C.)
(*c*1) Stable
(*c*4) Unstable
(*e*) In alkali at room temperature
(*e*1) Stable
(*e*4) Unstable
(*f*) In alkali heated (10 min at 70° C)
(*f*1) Stable
(*f*4) Unstable
(*h*) Heat (10 min at 70° C)
(*h*1) Stable
(*h*4) Unstable
(*m*) Inactivation by
Tel (A3) *into* (A1) *begins*
(*n*) Serum
(*p*) Enzyme
Specific enzyme to be got by (AD)
(*illustrative*)
(*p*P) Penicillinase
(*s*) Metal
Specific metal to be got by (AD) *using international symbols*
(*Illustrative*)
(*s*CU) Copper
Tel (A3) *into* (A1) *ends*
Tel (A2) *into* (A1) *ends*

(*za*) to (*zl*) **By untoward reaction**
The (CN) *for a specific disease to be got by applying the rules for the* (MC) L Medicine.
(*z*: 4537) Allergy
(*z*76: 411) Paralysis

(*zza*) **By LD_{50} (in mg/kg)**
Add the given figure or the range
(*Illustrative*)
(*zza*150) 150 mg/kg
(*zza*300 → 500) 300 to 500 mg/kg

(*zz*1) **By duration of action**
Tel (A2) *into* (A1) *begins*
(*zz*3) Sustained, (prolonged)
(*zz*4) Transient
(*zz*A) For given period
(*zz*B) In seconds
(*zz*C) In minutes
(*zz*D) In hours
(*zz*E) In days
(*zz*F) In weeks
Specific time interval to be got by adding the given

data to the appropriate (IN) (illustrative)

(zzB5) 5 seconds
(zzC30) 30 minutes
(zzE2) 2 days
Tel (A2) *into* (A1) *ends*

(zA) **By route of administration**

Tel (A2) *into* (A1) *begins*
(zB) Oral
(zB1) Feeding
(zB4) Stomach tube
(zB7) Duodenum tube
(zD) Respiratory organ, Inhalation
(zF) Vaginal
(zG) Exposure
(zG2) Dipping
(zG4) Fumigation
(zH) Topital application
(zM) Parenteral, Injection
(zM185) Intra-ocular
(zM27) Rectal, Colonic
(zM36) Intra-venous
(zM37) Intra-arterial
(zM43) Intra-tracheal
(zM45) Intra-pleural
(zM51) Intra-sinusoidal
(zM56) Intra-testicular
(zM721) Intra-meningeal
(zM7211) Subdural
(zM7212) Intra-cisternal
(zM7224) Intra-medullary
(zM73) Intra-spinal
(zM82) Intra-osseous
(zM83) Intra-muscular
(zM87) Subcutaneous
Tel (A2) *into* (A1) *ends*

(zZa) **By dosage form (Physical form of drug)**

Tel (A2) *into* (A1) *begins*
(zZb) Solid

Tel 1 (A3) *into* (A1) *begins*
(zZc) Pill
(zZd) Tablet
(zZe) Pellet
(zZf) Lozenge
(zZg) Dust
Tel 1 (A3) *into* (A1) *ends*

(zZh) Liquid
Tel 2 (A3) *into* (A1) *begins*
(zZj) Solution
(zZk) Capsule
(zZm) Spray, Aerosol
(zZn) Syrup
(zZp) Emulsion
(zZp5) Spray, Aerosol
(zZq) Suspension
(zZq5) Spray, Aerosol
Tel 2 (A3) *into* (A1) *ends*
(zZx) Ointment
Tel (A2) *into* (A1) *ends*

(zZ1) **By degree of purity**

Tel (A2) *into* (A1) *begins*
(zZ4) Crude
(zZ5) Mixture
(zZ7) Pure [favoured]
Tel (A2) *into* (A1) *ends*

(1) **By source**

Tel (A2) *into* (A1) *begins*
(2) Micro-organism

Tel (A3) *into* (A1) *begins*
(3) Bacteria
(4) Actinomycetales
(5) Algae
(6) Fungi

(7)	Lichen
	Tel (A3) *into* (A1) *ends*
(8)	Higher plant
(91)	Animal
	Particular species of organisms to be got by (AD) *using binomial nomenclature* (*illustrative*)
(3B)	*Bacillus* sp
(3B-S)	*Bacillus subtilis*
(4S-G)	*Streptomyces griseus*
(6P-C)	*Penicillium chrysogenum*
	Tel (A2) *into* (A1) *ends*
(9*a*)	**By functional group**
	Tel (A2) *into* (A1) *begins*
(9*b*)	Halogen derivative
(9*b*1)	Fluoride
(9*b*2)	Chloride
(9*b*3)	Bromide
(9*b*5)	Iodide
(9*c*)	Hydroxyl
(9*c*1)	Alcohol
(9*c*2)	Ether
(9*c*3)	Epoxide
(9*c*4)	Carbonyl
(9*c*5)	Aldehyde
((9*c*6)	Ketone
(9*c*F)	Hemiacetal
(9*c*G)	Acetal
(9*c*H)	Cyanohydrin
(9*c*J)	Ketene
(9*c*K)	Oxime
(9*c*M)	Hydroxylamine
(9*c*N)	Hydrazone
(9*c*P)	Semicarbazone
(9*c*R)	Hydrazine
(9*d*)	Organic acid
(9*d*3)	Ester
(9*d*4)	Unsubstituted amide
(9*d*5)	N-substituted amide
(9*d*6)	Acyl halide

(9*d*7)	Andhydride
(9*d*8)	Mononitrile
(9*f*)	Nitrogen compound
(9*f*1)	Amino
(9*f*11)	Primary
(9*f*12)	Secondary
(9*f*13)	Tertiary
(9*f*14)	Quarternary
(9*f*3)	Azo
(9*f*4)	Diazo
(9*f*5)	Cyanate
(9*f*55)	Isocyanate
(9*f*6)	Isonitrile
(9*f*7)	Urea
(9*f*8)	Guanidine
(9*f*84)	Substituted guanidine
(9*f*86)	Amidine
(9*f*B)	Carbamate
(9*f*C)	Carbamyl halide
(9*f*F)	Other units with -NH-CO linkage
(9*f*J)	Cyanamid
(9*f*M)	N-nitrosoamine
(9*f*P)	Nitride
(9*f*R)	N-oxide
(9*j*)	Sulphur compound
(9*j*1)	Sulphonic acid
(9*j*12)	Sulphonamide
(9*j*2)	Sulphinic acid
(9*j*3)	-COSH
(9*j*4)	-CSOH
(9*j*5)	-CSSH
(9*j*6)	Mercaptan
(9*j*7)	Thioether
(9*j*8)	Sulphone
(9*j*B)	Sulphoxide
(9*j*D)	-CS
(9*j*F)	-CHS
(9*j*G)	Thiocyanate
(9*j*H)	Thiourea
(9*j*K)	Thiocarbamate
(9*j*M)	Dithiocarbazate
(9*j*N)	Thiosemicarbazide
(9*j*R)	Thiouronium salt
(9*j*T)	Organo-sulphur
(9*m*)	Phosphorus compound

(9r) Silicon compound
(9t) Metallic compound

Tel (A2) *into* (A1) *ends*

(9A) By chemical structural group

Tel (A2) *into* (A1) *begins*

(9B) Aliphatic hydrocarbon (Acyclic)

Tel (A3) *into* (A1) *begins*

(9C) Paraffins (Alkane) (Saturated hydrocarbon)
(9C1) Methane
(9C2) Ethane
(9C3) Propane
(9C4) *n*-Butane
(9C5) *n*-Pentane
(9C6) *n*-Hexane
(9C7) *n*-Heptane
(9C8) *n*-Octane
(9C91) *n*-Nonane
(9C92) *n*-Decane
(9C93) *n*-Undecane
(9C94) *n*-Hexadecane
(9C95) *n*-Octadecane
(9C96) *n*-Eicosane
(9C97) *n*-Triacontane

Tel 2 (A3) *into* (A1) *ends*

(9D) Unsaturated
(9D1) Mono-olefins (Alkene)

Tel (A3) *into* (A2) *begins*

(9D2) Ethylene
(9D3) Propylene
(9D4) Butene
(9D5) Propene
(9D6) Pentene
(9D7) Hexene
(9D8) 1-Hexadecene
(9D91) 1-Hexacosene
(9D92) 1-Triacontene

Tel (A3) *into* (A2) *ends*

(9E) Di- and-tri-olefins
(9E1) Allene
(9E2) 1,3-Butadiene
(9E3) 1,3-Pentadiene
(9E4) Isoprene
(9E5) 1,5-Hexadiene
(9E6) 2,4-Hexadiene
(9E7) 1,3,5-Hexatriene
(9F) Acetylenes (Alkyne)
(9F1) Acetylene
(9F2) Propyne
(9F3) Butyne
(9F4) Vinyl acetylene
(9F5) 1,5-Hexadien-3-yne
(9F6) 1,5,7-Octatrien-3-yne
(9F7) Butadiyne
(9F8) Hexadiyne

Tel (A2) *into* (A1) *ends*

(9G) Alicyclic hydrocarbon (Monocyclic)
(9G1) Saturated

Tel (A3) *into* (A2) *begins*

(9G2) Cyclopropane
(9G3) Cyclobutane
(9G4) Cyclopentane
(9G5) Cyclohexane
(9G6) Cyclooctane
(9G7) *p*-Methane

Tel (A3) *into* (A2) *ends*

(9H) Unsaturated
(9H1) Cyclobutene
(9H2) Cyclopentene
(9H3) Cyclohexene
(9H4) Cyclooctene
(9H5) 3-*p*-Menthene
(9H6) Cyclopentadiene
(9H7) *Alpha*-Limonene
(9H8) *Alpha*-Terpinene
(9H91) *Beta*-Phellandiene
(9H93) Cyclo-octatetraene
(9H95) *Beta*-Carotene
(9J) Bicyclic

(9J1) Thujone
(9J2) Carane
(9J3) Pinane
(9J4) Camphane
(9J5) Decalin
(9J6) *Alpha*-Thujene
(9J7) *Delta* -Carene
(9J8) *Alpha*-Pinene
(9J91) Bornylene
(9J92) Camphene
(9K) Tricyclic
(9K1) Saturated

Tel (A3) *into* (A2) *begins*

(9K2) Tricyclene
(9K5) Adamantane

Tel (A3) *into* (A2) *ends*

(9K6) Unsaturated
(9K62) Dicyclopentadiene
(9M) Open chain and cyclic polymers from olefin compounds
(9N) Carbohydrate
(9N1) Monosaccharide
(9N11) Pentose
(9N13) Hexose
(9N2) Disaccharide
(9N21) Maltose
(9N3) Trisaccharide
(9N5) Oligosaccharide
(9N8) Polysaccharide
(9N91) Pentosan
(9N92) Starch
(9N98) Glucoside
(9P) Aromatic hydrocarbon (Benzenoid)

Tel (A2) *into* (A1) *begins*

(9Q) With saturated side chain
(9Q1) Benzene
(9Q2) Toluene
(9Q3) Xylene
(9Q4) Ethylbenzene
(9Q5) *n*-Propylbenzene
(9Q6) Cumene
(9Q7) Trimethylbenzene
(9Q8) Mesitylene
(9QC) *p*-Cymene
(9QD) Dimethylbenzene
(9QG) Tetramethylbenzene
(9QJ) Hexamethylbenzene
(9QM) *n*-Dodecylbenzene
(9R) With saturated side chain
(9R1) Styrene
(9R3) Alkylbenzene
(9R5) *p*-Phenyl-1,3-butadiene
(9R7) Phenylacetylene
(9S) Polyphenyls
(9S2) Biphenyl
(9S3) Triphenyl
(9S4) *p*-Quarterphenyl
(9S5) 1,3,5-Triphenylbenzene
(9S6) Diphenylmethane
(9S7) Dibenzyl
(9SB) Stilbene
(9SD) Triphenylmethane
(9SG) Tetraphenylmethane
(9SM) Tetraphenylethylene
(9T) Polynuclear compounds
(9T1) Indene
(9T2) Naphthalene
(9T3) 1,2,3,4-Tetrahydronaphthalene (Tetralin)
(9T4) Methylnaphthalenes
(9T5) Fluorene
(9T6) Acanaphthene
(9T7) Acenaphthylene
(9T8) Anthracene
(9TB) Phenanthrene
(9TC) Naphthacene
(9TG) Rubrene
(9TH) Benz(*a*)anthracene
(9TJ) Chrysene
(9TK) Triphenylene
(9TM) Pyrene
(9TN) Cholanthrene
(9TP) 3-Methylcholanthrene
(9TQ) Pentacene
(9TR) Dibenz[*a*, *c*]anthracene

(9TS) Dibenz[*a*, *h*]anthracene
(9TT) Picene
(9TU) Perylene
(9TV) Benzo [*a*] pyrene
(9TW) Pyranthrene
(9U) Quasi-aromatic comp
(9U7) Tropolone
Tel (A2) *into* (A1) *ends*
(A) Heterocyclic compound
Tel (A2) *into* (A1) *begins*
(B) 3-membered ring
(B1) With one hetero atom
(B11) Oxiran
(B12) Thiiran
(B13) Aziridine
(B2) With two hetero atoms
(B21) Oxetan
(B22) Thietan
(B23) Azetidine
(C) 4-membered ring
(C1) Rings containing two O atoms
(C2) Rings containing two S atoms
(C3) Rings containing two N atoms
(C4) Rings containing one N and one O atoms
(C5) Rings containing one N and S atoms
(D) 5-membered ring with N as hetero atom
(D1) Pyrroles and hydropyrroles
(D11) Pyrrole
(D12) Pyrroline
(D13) Pyrrolidine
(D16) Compounds with 2 or more unfused pyrrole rings
(D162) NN′-Dipyrryls
(D2) Indoles and hydroindoles
(D21) Indole
(D22) Indoline
(D23) Indolinone
(D24) Tetrahydroindole
(D26) Hexahydroindole
(D28) Octa-hydroindole
(D291) Compounds with more than one indole nucleus
(D3) *Iso*-indoles and *iso*-indolines
(D4) Other bicyclic pyrrole system
(D43) Spirocyclic
(D45) Cycloalkinopyrrole
(D48) Fused system of two heterocyclic rings
(D5) Benzoindole (excluding carbzole)
(D6) Carbazole
(D7) Other tricyclic pyrrole systems
(E) 5-membered ring with O as hetero atom
(E1) Monocyclic furans and hydrofurans
(E11) Furan
(E12) Dihydrofuran
(D15) Tetrahydrofuran
(E16) Compounds with 2 or more unfused furan nucleus
(E2) Coumarone
(E21) Benzofuran
(E23) Coumaran
(E26) Other reduced benzofurans
(E3) *Iso*-benzofuran
(E4) Other bicyclic systems with furan ring
(E5) Dibenzofurans
(E52) Dibenzofuran
(E54) Reduced dibenzofuran
(E56) Natural products related to dibenzofuran
(E562) Porphyrillic acid
(E565) Usnic acid
(E6) Other tricyclic and polycyclic systems with one furan nucleus
(E61) Condensed systems of benzene ring with one furan ring
(E63) Systems of benzene ring and more than one furan

	nucleus
(E65)	Other tri- and polycylic systems
(E654)	Griseofulvin
(F)	5-membered ring with S as hetero atom
(F1)	Monocyclic thiophens and hydrothiophens
(F11)	Thophen
(F12)	Dihydrothiophen
(F14)	Tetrahydrothiophen
(F16)	Compounds with 2 or more unfused thiophen rings
(F2)	Thionaphthens
(F21)	Thionaphthen
(F24)	Reduced thionaphthen
(F3)	Other bicyclic thiophens
(F31)	*Iso*-benzothiophens
(F35)	Other cycloalkenothiophens
(F36)	Systems of two fused thiophen rings
(F4)	Dibenzothiophens
(F5)	Other tricyclic and polycyclic systems containing the thiophen ring
(F6)	Selenophen
(F7)	Tellurophen
(G)	5-membered ring with two hetero atoms
(G1)	Pyrazole group
(G11)	Pyrazole
(G12)	Pyrazoline
(G13)	Pyrazolidine
(G14)	Imidazole
(G16)	Condensed polycyclic pyrazole
(G2)	Iminazole group
(G21)	Iminazole
(G22)	Iminazoline
(G23)	Iminazolidine
(G24)	Benziminazole
(G26)	Condensed polycyclic iminazole
(G3)	Dioxole group
(G31)	Dioxoles, dioxolans
(G35)	Dithiole, dithiolans
(G351)	Thiolutin
(G35A)	Aureothricin
(G4)	Isoxazole group
(G41)	Isoxazole
(G42)	Isoxazoline
(G43)	Isoxazolidine
(G45)	Benzisooxazole
(G451)	Indoxazene
(G452)	Anthranil
(G5)	Oxazole group
(G51)	Oxazole
(G52)	Oxazoline
(G53)	Oxazolidine
(G55)	Benzoxazole
(G56)	Condensed polycyclic oxazoles
(G6)	Isothiazole group
(G65)	Benzisothiozole
(G66)	Benzisoselenazole
(G7)	Thiazole group
(G71)	Thiazole
(G72)	Thiazoline
(G73)	Thiazolidine
(G74)	Penicillin
(G75)	Benzothiazole
(G76)	Selenazole
(H)	5-membered ring with 3 hetero atoms
(H1)	Triazole
(H11)	1 : 2 : 3-Triazole
(H13)	Benzotriazole
(H14)	1 : 2 : 4-Triazole
(H2)	Oxadiazole
(H21)	1 : 2 : 3-Oxadiazole
(H22)	1 : 2 : 5-Oxadiazole (Furazon)
(H23)	Benzo-1 : 2 : 5-oxadiazole
(H25)	1 : 2 : 4-Oxadiazole (Azoxime)
(H26)	1 : 3 : 4-Oxadiazole
(H3)	Thiadiazoles
(H31)	1 : 2 : 3-Thiadiazole
(H33)	Benzo-1 : 2 : 3-thiadiazole
(H34)	1 : 2 : 5-Thiadiazole
(H35)	1 : 2 : 4-Thiadiazole (Azosulphine)
(H36)	1 : 3 : 4-Thiadiazole
(H4)	Dioxazole

(H5) Dioxazole
(H6) Oxathiazole
(J) 5-membered ring with 4 hetero atoms
(J4) Tetrazoles
(J5) Thiatriazoles
(J6) Dithiadiazole
(K) 6-membered ring with N as hetero atom
(K1) Pyridine group
(K11) Pyridine
(K12) Dihydropyridine
(K14) Tetrahydropiridine, Piperidcine
(K15) Hexahydropyridines, Piperidine
(K16) Dipiperidyls
(K2) Quinolines and Isoquinolines
(K21) Quinolines
(K22) Hydrogenated quinoline
(K23) Isoquinoline
(K24) Hydrogenated isoquinoline
(K3) Cyclopolymethylene pyridine
(K4) Acridines
(K41) Acridine
(K42) Hydrogenated acridine
(K5) Phenanthridines
(K51) Phenanthridine
(K52) Hydrophenanthridine
(K6) Benzoquinoline and Benzoisoquinoline
(K8) Naphthoquinolines and Naphthoisoquinolines
(K81) Benzacridine
(K82) Dibenzacridine
(K85) Benzophenanthridine
(L) 6-membered ring with O as hetero atom
(L1) Pyrans
(L11) Pyran
(L12) Pyranol
(L13) Pyrone
(L14) Dihydropyran
(L18) Tetrahydropyran
(L2) Chromens

Tel (A3) *into* (A2) *begins*

(L3) Chromen
(L31) Anthocyanine and anthocyanidine
(L32) Coumarin
(L33) Chromones
(L35) Fluorene
(L36) Benzochroman
(L4) Chromans
(L41) Tocopherol
(L43) Catechins and other tannins
(L44) Flavanone
(L5) Isobenzopyran
(L52) Isocoumarin
(L53) Isochroman
(L6) Xanthens
(L61) Xanthen
(L62) Xanthydrols
(L62R) Rhodamine
(L63) Xanthones
(L66) Benzo-, Dibenzo-Xanthenes

Tel (A3) *into* (A2) *ends*

(M) 6-membered ring with S as hetero atom
(M1) Thiapyran
(M2) Thiachroman
(M3) Dibenzothiapyran
(M5) Isothiachroman
(M6) Bridged ring S compounds
(N) Brazilin and haematoxylin
(N1) Brazilin
(N5) Haematoxylin
(P) Two fused 5 or 6-membered heterocyclic rings each of one hetero atom
(P1) Two hetero rings fused to an aromatic system
(P11) Pyranoquinolines
(P12) Bz-Pyrroloquinolines
(P13) Phenanthrolines
(P15) Dipyridonaphthalenes
(P2) Compounds with two hetero rings fused through adjacent carbon atom
(P21) Furanoquinolines
(P22) Pyranoquinolines

(P23) Pyrrolopyridines
(P25) Naphthopyridines
(P3) Fused hetero systems with a N atom common to two rings
(P31) Pyrrocoline
(P32) Pyridocoline
(P33) Julolidine
(P34) Lilolidine
(P6) Bridged ring compounds
(P61) With N common to two rings
(P612) Quinuclidine
(P62) Bicyclic system with a N bridge
(P625) Nortropanes
(Q) Dyes and pigments
(Q1) Cyanine group
(Q11) Cyanine
(Q12) Azacyanine
(Q13) Neocyanines
(Q14) Merocyanine
(Q15) Linear tri- and poly-nuclear cyanine and merocyanine
(Q16) Oxanol dyes
(Q17) Styryl dyes
(Q18) *N*-hemicyanines
(Q2) Indigo group
(Q3) Pyrrole pigments
(Q31) Linear pigments
(Q311) Dipyrromethanes
(Q315) Bile pigments
(Q4) Monocyclic pigments (unreduced pigments)
(Q44) Porphin
(Q45) Porphin propionic acid
(Q46) Haemoglobin
(Q47) Other porphyrin-protein complex
(Q48) Naturally occurring protein-free porphyrins
(Q5) Reduced pigments
(Q51) Chlorophyll
(Q52) Cyanocobalamin
(Q6) Aza- and Benzoporphyrins, Phthalocyanin
(Q61) Azaporphins
(Q66) Benzoporphins
(R) Compounds with unusual hetero atoms
(R1) 5-membered ring with one hetero atom
(R11) Halogen compound
(R1AS) As compound
(R1P) P compound
(R1SB) Sb compound
(R1ST) Si compound
(R2) 5-membered ring with more than one hetero atom
(R21) Si and O or S
(R22) P and O or N
(R23) As and O
(R24) As and S
(R25) Sb and O
(R27) Bi and O or S
(R3) 6-membered ring with one hetero atom
(R31) Si compound
(R32) Ge, Sn, Pb compounds
(R33) P compound
(R34) As compound
(R35) Sb and Bi compounds
(R36) I compound
(R4) 6-membered ring with more than one hetero atom
(R41) Si with,O, S or N compounds
(R42) P with O or N compounds
(R43) As with O, S or N compounds
(R44) Sb and O compounds
(R45) Two P or P and As compounds
(R46) Two As compounds
(R7) 7-membered and larger rings
(R73) Si and Sn compounds
(R81) With As atoms
(R84) P and As compounds
(R85) I compounds
(S) 6-membered ring with

two hetero atoms
(S1) Diazine

Tel (A3) *into* (A2) *begins*

(S2) Pyridazine group
(S21) Pyridazine
(S22) Hydropyridazine
(S23) Cinnolines
(S24) Benzocinnolines
(S26) Other cinnolines
(S28) Phthalazine
(S3) Pyrimidine group
(S31) Pyrimidine
(S32) Hydrogenated pyrimidine
(S32A) Alloxan
(S36) Hydrogenated quinozoline
(S4) Pyrazine group
(S41) Pyrazine
(S42) Hydropyrazine
(S43) Quinoxaline
(S44) Hydrogenated quinoxaline
(S45) Phenazines
(S46) Hydrogenated phenazines
(S5) Oxazines
(S51) Monocyclic
(S512) 1, 2-Oxazine
(S513) 1, 3-Oxazine
(S514) 1, 4-Oxazine
(S514) Morpholines
(S52) Benzooxazines
(S53) Phenooxazine
(S6) Thiazine
(S61) Homocyclic
(S613) 1, 3-Thiazine
(S614) 1, 4-Thiazine
(S62) Benzothiazines
(S63) Phenothiazines
(S7) Dioxane
(S71) 1, 2-Dioxan and 1, 2-Dithian
(S72) 1, 3-Dioxan group
(S73) 1, 4-Dioxan group

Tel (A3) *into* (A2) *ends*

(SA) Dyes from phenazine, etc & S dyes
(SA1) Phenazine dyes
(SA3) Phenothiazine dyes
(SA5) Sulphur dyes
(T) 6-membered ring with more than 2 hetero atoms
(T1) Triazines
(T2) Oxadiazines and Thiadiazines
(T3) Dioxazines and Dithiazines
(T4) Trioxane and Trithian
(T5) Tetrazines
(T6) Pentazines
(U) Compounds with a 7-membered or larger ring with hetero atom
(U1) 7-membered rings
(U11) With one N atom
(U11A) Azepine
(U11H) Hexamethyleneimine
(U12) With two N atoms
(U121) 1, 2-Diazepines
(U122) 1, 3-Diazepines
(U123) 1, 4-Diazepines
(U13) With 3 N atoms
(U14) With 4 N atoms
(U15) With one O atom
(U16) With 2 or more O atoms
(U161) Cyclic acetals
(U162) Cyclic ethers of catechol
(U163) Depsidam and depsidones
(U165) Rings with 3 O atoms
(U17) With S or Se
(U171) Thiepin
(U18) With two or more different hetero atoms
(U2) 8-Membered ring
(U21) Rings with one N atom
(U21H) Heptamethyleneimine
(U22) Rings with 2 N atoms
(U23) Rings with 3 N atoms
(U24) Rings with O atom
(U27) Rings with S or Se atoms
(U3) 9-membered rings
(U31) Rings with N atom
(U32) Rings with O atom
(U33) Rings with S atom
(U4) 10-membered rings

(U41) Rings with N atom
(U42) Rings with O atom
(U43) Rings with S atom
(U5) Rings with more than ten atoms
(U51) Rings with N atom
(U511)) With one N atom
(U512) With two N atoms
(U52) Rings containing O atom
(U521) Lactones
(U522) Cyclic ether
(U523) Cyclic ester
(U524) Complex rings containing O atom
(U524M) Macrolide
(V) Purines and related ring system
(V1) Purines
(V11) Purine and alkylpurine
(V12) Hydroxypurine
(V13) Halazonopurine
(V14) Mercaptopurine
(V15) Aminopurine
(V2) Thiazolopyrimidines
(V23) Pyrazolopyrimidines
(W) Nucleosides, etc.
(W1) Nucleoside
(W2) Nucleotide
(W3) Nucleic acid
(WX) Pteridines etc
(WX1) Pteridine
(WX2) Alloxazine
(WX3) Vitamin B_{12} etc
(WX4) Vitamin B_1
(X) Alkaloids
(X1) Pyridine, Piperidine; Pyrrolizidine and Tropane group
(X11) Pyrrolidine group
(X12) Pyridine and Piperidine groups
(X13) Pyrrolizidine group
(X14) Tropanes
(X14A) Atropine
(X14H) Hyoscyamine
(X14S) Scopolamine
(X15) N-methylgranatamine alkaloids
(X2) Quinoline group
(X21) Quinoline
(X211) Echinopsine
(X212) Chincona
(X213) Acridine alkaloid
(X3) Isoquinoline group
(X31) Beta-Phenylethylamine etc
(X32) Benzylisoquinoline
(X33) Phthalideisoquinoline
(X34) Berberine group
(X35) Cryptopine group
(X36) Aporphine alkaloid
(X37) Phenanthridine
(X38) 1, 2-Benzophenanthridine
(X391) Ipecac group
(X392) Cularine group
(X396) Benzylisoquinoline alkaloids
(X4) Lupinane, iminazole and quinazoline group
(X41) Lupinane group
(X411) Lupinine
(X4112) Phenanthromorpholine
(X413) Cytisine
(X414) Anagyrine
(X415) Lupamina
(X416) Sparteine
(X42) Iminazole group
(X43) Quinazoline group
(X5) Diterpene and steroid group
(X51) Diterpene group
(X511) Garya
(X513) Atisine
(X52) Steroid group
(X521) Solanum alkaloids
(X523) Veratrum
(X525) Holarrhena
(X6) Morphine group
(X61) Morphine
(X62) Codeine
(X63) Neopine
(X64) Thebain
(X66) Oripavine
(X67) Sinomenine

(X68) Hasubenomine
(X7) Indole group
(X71) Harmine, Harmaline, Cryptolepine
(X72) Indolopyridocoline group
(X73) Ibogaine
(X74) Ergot alkaloid
(X76) Strychnine group
(X8) Erythrina group
(X82) Lactonic
(X86) Aromatic
(Y1) Inorganic substances
To be got by using [1P] *schedule of* E chemistry (*illustrative*)
(Y122) Calcium
(Y191) Metal
(Y9) Biosubstances (Not mentioned elsewhere) (*illustrative*)
(Y982) Enzyme
Tel (A2) *into* (A1) *ends*
(YA) Other agents (*illustrative*)
(YC35) Ultrasound
(YC52) Ultraviolet light
(YZA) **By empirical formula enemical composition**
Add the given formula (*illustrative*)
(YZC21H28N2O5) $C_{21}H_{28}N_2O_5$
(*Za*) **By kind of action**
Tel (A2) *into* (A1) *begins*
(*Zb*) Decrease
(*Zb*1) Number, Quantity
(*Zb*3) Functional activity
(*Zb*4) Temperature
(*Zb*5) Pressure
(*Zb*63) Volume, Size
(*Zb*7) Growth
(*Zc*) Increase
Divide as in (*Zb*)
(*Zd*) Synergise
(*Ze*) Reverse
(*Zf*) Block, Interrupt, Prevent
(*Zh*) Inhibition
(*Zh*4) Antagonism
(*Zh*7) Destruction, Neutralization
(*Zj*) Change state
(*Zj*2) Solid to liquid
(*Zj*3) Liquid to solid
(*Zj*5) Liquid to gas
(*Zj*8) Gas to liquid
(*Zk*) Remove, Cleanse
(*Zk*1) Eject, Loosen
(*Zm*) Replacement
(*Zn*) Simulation
(*Zn*7) Competition
(*Zp*) Protection
(*Zr*) Restore to normal, Cure
(*Zs*) Insensibility
(*Zt*) Membrane permeation
(*Zx*) Chemical reaction (Metabolic)
(*Zx*1) Detoxification
(*Zx*2) Oxidation, Reduction
(*Zx*3) Conjugation
(*Zx*4) Acylation
(*Zx*5) Esterification
(*Zx*6) Hydrolysis
(*Zx*7) Amination, Deamination
(*Zx*8) Binding
(*Zx*81) Chelation
(*Zx*85) Protein binding
(*Zx*91) Degradation
(*Zx*92) Alkylation
(*Zx*93) Phosphorylation
(*Zx*94) Halogenation, Dehalogenation
(*Zx*95) Hydration, Dehydration
(*Zx*96) Condensation
Tel (A2) *into* (A1) *ends*
(Z1) **By organ/Disease affected**
To be got by using the Schedule of L Medicine

(Illustrative)

(Z25 : 6262) Amoebic dysentery
(Z293 : 46) Diabetes

(ZA) **By organism affected**

Tel (A2) *into* (A1) *begins*

(ZB) Virus
(ZB1) Pantropic
(ZB2) Viscerotropic
(ZB4) Pneumotropic
(ZB7) Neurotropic
(ZB8) Dermotropic
(ZC) Rickettsiae
(ZD) Bacteria
(ZD2) Gram positive
(ZD3) Gram negative
(ZD4) Acid fast
(ZF) Fungi
(ZF1) Myxomycetes
(ZF3) Phycomycete
(ZF5) Ascomycete
(ZF7) Basidiomycete
(ZM) Protozoa
(ZM1) Amoebe
(ZM2) Spirochetes
(ZM3) Hemoflagellates
(ZM4) Trichomonads
(ZM5) Plasmodia
(ZM6) Toxoplasma
(ZM7) Anaplasma
(ZM8) Ciliates
(ZM91) Coccidia
(ZP) Helminth
(ZP1) Nematoda
(ZP3) Trematoda
(ZP5) Cestoda
(ZT) Higher plant

Tel (A2) *into* (A1) *ends.*

8 Examples

F TECHNOLOGY
F56 **Drug**
F56, (Z: 17)–(Zs3) Analgesic
F56, (Z: 17)–(Zs3)–(D13) PYRROLIDINE

1 N62 CAVALLA (JF) etc. Analgetics based on the pyrrolidine ring. (J med pharm chem. 5; 1962; 441–51).

F56 TECHNOLOGY, DRUG
F56, (Z11 : 472) Tumour
F56, (Z11 : 472)–(Zb7) REDUCTION, GROWTH
F56, (Z11 : 472)–(Zb7)–(V112) Alkylpurine
F56, (Z11 : 472)–(Zb7)–(V112) : 4 SYNTHESIS

2 N62 TEMPLE (C) (JR), KUSSNER (CL) and MONTGOMERY (JA). Synthesis of potential anti-neoplastic agents: 9-Alkyl-9H-purines. (ibid. 866–70).

F56 TECHNOLOGY, DRUG
F56, (Z293 : 46) Diabetes
F56, (Z293 : 46)–(Zr) THERAPY
F56, (Z293 : 46)–(Zr)–(H26) 1,3,4–Oxadiazole
F56, (Z293 : 46)–(Zr)–(H26) : 4 SYNTHESIS

3 N62 O'NEAL (JB) etc. Potential hypolgycemic agents: 1, 3, 4-Oxidiazoles and related compounds. (ibid. 617–26)

F56 TECHNOLOGY, DRUG
F56, (Z35 : 522) Hypertension
F56, (Z35 : 522)–(Zb) REDUCTION
F56, (Z35: 522)–(Zb)–(9 f 8) Guanidine

4 N62 MULL (RP) etc. Guanidines with antihypertensive activity. (ibid. 944–9).

F56 TECHNOLOGY, DRUG
F56, (Z6) Ductless gland
F56, (Z6)–(Zb3) Reduction, Functional activity
F56, (Z6)–(Zb3)–(K1) Pyridines

5 N62 BENCZE (WL) and BARSKI (CLI). Selective adrenal cortical gonadal inhibitors. (ibid. 1298–306).

F56 TECHNOLOGY, DRUG
F56, (ZA)–(Zh) Antibiotic
F56, (ZA)–(Zh) : 5 EXTRACTION

6 142N55 GORODETSKAIA (AV). Extraction methods in the purification of antibiotics. (Antibiotiki. 8; 1955; 3–13).

F56, (ZA)–(Zh) : (E9G) Antibiotic, Biochemistry

7 N55 BINKLEY (SB). Biochemistry of antibiotics. (Annu rev biochem. 24; 1955; 597–626).

F56, (ZA)–(Zh)–Z9n Antibiotic, Optical rotation

8 N60 NEELAMEGHAN (A). Optical rotation. (Antibiotics produced by fungi, bacteria, and lichens. 3). (Physicochemical data on antibiotics. 1). (Hindustan antib bul. 2; 1960; 113–4).

F56, (ZA)–(Zh) Antibiotic
F56, (ZA)–(Zh)–(41) FROM ACTINOMYCETES
F56, (ZA)–(Zh)–(4): 218 Molecular structure

9 N58 VAN TAMELEN (EE). Structural chemistry of actinomycetes antibiotics. (Fortschr chem org naturst. 16; 1958; 90–138).

56 TECHNOLOGY, DRUG
F56, (ZB)–(Zh) Antiviral antibiotic
F56, (ZB)–(Zh)–(41) FROM ACTINOMYCETES
F56, (ZB)–(Zh)–(41)–Z9c UV maxima

10 N60 NEELAMEGHAN (A). Index to U V absorption maxima. (Physico-chemical data on antibiotics. 2; Antibiotics produced by Actinomycetes. 3; Antibiotics with antiviral activity). (Hindustan antib bul. 2; 1960; 102–3).

F56, (ZB)–(Zh)–(41)–ZA By Melting point

11 N60 ——. Index to melting/decomposition points. (Range in C.). (Physico-chemical data on antibiotics. 2; Antibiotics pro-

duced by Actinomycetes. 3; Antibiotics with antiviral activity.). (ibid. 101).

F56, (ZB)-(Z*h*)-(41)-(YZA) By Empirical formula.

12 N60 ——. Formula index. (Physico-chemical data on antibiotics. 2; Antibiotics produced by Actinomycetes. 3; Antibiotics with antiviral activity). (ibid. 104).

F56, (Z*h*) Antifungal antibiotic
F56, (ZF)-(Z*h*)-(41) FROM ACTINOMYCETES
F56, (ZF)-(Z*h*)-(41);*b*Z Physical-chemical properties

3 N60 ——. Antibiotics with antifungal activity. (Antibiotics produced by Actinomycetes. 1). (Physico-chemical data on antibiotics. 2). (Hindustan antib bul. 3; 1960; 131–55).

F56, (ZF)-(Z*h*) Antifungal antibiotic
F56, (ZF)-(Zh)-(85) FROM FLOWERING PLANTS

14 N61 SEHGAL (JM). Antimicrobial substances from flowering plants: 1. Antifungal substances. (ibid. 4; 1961; 3–29).

F56, (ZF)-(Z*h*) Antifungal Antibiotic
F56, (ZF)-(Z*h*)-(9D) POLYENE
F56, (ZF)-(Z*h*)-(9D)-(41) From Actinomycetes
F56, (ZF)-(Z*h*)-(9D)-(41): 283 (G) ASSAY, MICROBIOLOGICAL

15 N62 MANIAR (AC) and MAVDIKAR (S). Microbiological assay of Hamycin and other polyene antibiotics. (ibid. 4; 1962; 168–71).

F56, (ZN1)-(Z*h*) Nematocidal antibiotic
F56, (ZN1)-(Z*h*)-(4) FROM ACTINOMYCETES
F56, (ZN1)-(Z*h*)-(4): 2 Production

16 N61 MORI (R). Studies on nematocidal antibiotics. 1. Screening and isolation of nematocidal substances produced by actinomycetes. (J antib, Ser A. 14; 1961; 280–5).

LX PHARMACOGNOSY
LX3 Pharmacology
LX3, (z*A*) BY ROUTE OF ADMINISTRATION
LX3, (z*M*73) Intraspinal

17 122N57 DELPHAUT (J). Pharmacological action of drugs administered intraspinally. (Actual pharm. 10; 1957; 89–116).

LX3, (z*B*) Pharmacology, Oral administration
LX3, (z*B*)-(z*z*Z) SUSTAINED ACTION

18 N59 SJOGREN (J). Sustained action preparations for oral use. (Farm rev. 58; 1959; 465–9).

LX3 (V1) Pharmacology, Purines

19 56N BURCHENAL (JH). Clinical effects of purines. (Med clin N Am. 40; 1956; 935–49).

LX3, (Y191) Pharmacology, Metal

20 N61 PASSOW (H), ROTHSTEIN (A) and CLARKSON (TW). General pharmacology of heavy metals. (Pharm rev. 13; 1961; 185–224).

LX3, (Z: 17) (Zs) Pharmacology, Anaesthesia
LX3, (Zs)–(zA) BY ROUTE OF ADMINISTRATION
LX3, (Zs)–(zG73) Intraspinal

21 N55 GREENE (NM). Pharmacology of local anesthetic agents, with special reference to their use in spinal anesthesia. (Anesthesiology. 16; 1955; 573–93).

LX3, (zc)–(Zh4) Pharmacology, Metabolic antagonist

22 N58 SHIVE (W) and SKINNER (CG). Metabolic antagonists. (An rev biochem. 27; 1958; 643–78).

LX3, (Z11: 472) Pharmacology, Tumour
LX3, (Z11: 472)–(Zb7) REDUCTION GROWTH
LX3, (Z11: 472)–(Zb7)–(9c3) Epoxide

23 N63 BRATZEL (RP), GOODRIDGE (TH), and HUNTRESS (WT). Survey of epoxides and episulfides. (Cancer chemother rep. 26; 1963; 445–506).

LX3, (Z11: 472)–(Zb7)–(B13) Ethyleneimine

24 N63 GOODRIDGE (TH), HUNTRESS (WT) and BRATZEL (RP). Survey of aziridines. (ibid. 341–443).

LX3, (Z185) Pharmacology, Eye
LX3, (Z185)–(Z: 17)–(Zs) ANAESTHETIC

25 N58 GHOSH (CK). Local anesthetics in ophthalmology: A review. (Calcutta med j. 55; 1958; 292–302).

LX3, (Z245) Pharmacology, Gastric secretion
LX3, (Z245)–(Zh7) NEUTRALIZATION

26 N63 DRUGS FOR gastric disorders. (Brit med j. 2; 1963; 1387–9).

LX3, (Z25: 451)–(Zk1) Pharmacology, Constipation, Loosening
LX3, (Z25: 451)–(Zk1)–(8) FROM PLANTS

27 113N60 SCHMIDT (HJ). Chemistry and pharmacology of plant laxatives. (Mitt ,deut pharm ges. 30; 1960; 41–67). *In* Arch pharm. 293–5). [Only pharmacological aspect classified].

LX3, (Z25): 452) Pharmacology; Vomiting
LX3, (Z25: 452)–(Z *f*) PREVENTION

28 N57 MOYER (JH). Effective antiemetic agents. (Med clin eN Ar.m 41; 1957; 405–32).

LX3, (Z293: 46) Pharmacology, Diabetes
LX3, (Z293 : 46)–(Z*r*) THERAPY
LX3, (Z293: 46)–(Z*r*)–(9*j*12) Sulphonamide
LX3, (Z293 : 46)–(Z*r*)–(9*j*12)–(zB) ORAL

29 N58 DIVAKARAN (ER) and BANERJEE (S). Oral hypoglycemic and antidiabetic sulphonamides: A review. (Indian j physiol pharm. 2; 1958; 283–305).

LX3, (Z3) Pharmacology, Circulatory system
LX3, (Z3)–(X) ALKALOID
LX3, (Z3)–(X)–(8A–L) From *Alanguim lamarckii*

30 N63 DUTTA (AK) and PAKRASH (SC). Studies on cardiovascular drugs. 5. Pharmacological investigations of the total alkaloids from the seeds of *Alanguim lamarckii* Thw. (An bio. chem exper med. 23; 1963; 285–98).

LX3, (Z35: 4995) Pharmacology, Blood, Coagulation
LX3, (Z35 : 4995)–(Z*j*2) ANTICOAGULATE
LX3, (Z35: 4995)–(Z*j*2)–(L32) Coumarin

31 N63 VERSTRAETE (M) etc. On the concept of slowly and rapidly acting coumarin drugs. (Acta heamat. 30; 1963; 181–9).

LX3, (Z35: 522) Pharmacology, Blood, Hypertension
LX3, (Z35 : 522)–(Z*b*) REDUCTION

32 122N60 DE VLEESCHHOUWER (GR). Pharmacology of antihypertensive substances. (Brux med. 40; 1960 Jan 10; 35–55).

LX3, (Z37)–(Z*c*63) Pharmacology, Vasodilator

33 N59 WILLIS (PW) and DUFF (IF). Coronary vasodilating drugs. (Med clin N Amer. 41; 1959; 449–69).

LX3, (Z515)–(Z*c*63) Pharmacology, Diuretic

34 N61 BEYER (KH) and BAER (JE). Physiological basis for the action of newer diuretic agents. (Pharm rev. 13; 1961; 517–62).

LX3, (Z71: 4511) Pharmacology, Central nervous system, Depression
LX3, (Z71 : 4511)–(Z*c*3) INCREASE, FUNCTIONAL ACTIVITY

35 N63 DRUGS FOR depression. (Brit med j. 2: 1963; 799–802).

LX3, (Z71: 4512) Pharmacology, Coma
LX3, (Z71: 4512)-(Zr) THERAPY
LX3, (Z71: 4512)-(Zr)-(X9) Indole alkaloid

36 N63 LANG (WJ) and GERSHON (S). Analeptic activity and EEG effects of some indole alkaloids. (Psysch neurol. 146; 1963; 276–86).

LX, (Z83: 531) Pharmacology, Convulsion
LX3, (Z83: 531)-(Zr) THERAPY

37 N57 GUJRAL (ML), SAREEN (KN), and DHAWAN (BN). Anticonvulsants: A review. (Ind j physiol pharm. 1; 1957; 67–115).

LX3, (ZD)-(Zh) Pharmacology, Antibacterial antibiotic
LX3, (ZD)-(Zh)-(9N5) OLIGOSACCHARIDE

38 N63 DIMARCO (A) and BERTAZZOLI (C). Pharmacology of new basic oligosaccharide antibiotics. (Antibiot and chemother (Basel). 11; 1963; 2–20).

LX3, (ZP)-(Zh7) Pharmacology, Anthelmintics
LX3, (ZP)-(Zh7)-(9Q11) PHENOLS

39 142N58 KROTOV (AI) and BEKHLI (AF). Investigation on new anthelmintics from the phenol series and their derivatives. (Farmkol toksikol. 21; 1958; 49–52).

BIBLIOGRAPHICAL REFERENCES

1 Sec 1 NEELAMEGHAN (A). New developments in Library classification in India. (International Study Conference on Classification Research, Elsinore, Sep 1964).

2 Sec 1 RANGANATHAN (SR). Design of depth classification: Methodology. (Classification problem. 1). (Design series. 1). (Lib sc. 1; 1964; Paper A).

3 Sec 52 ——. ——. (ibid. Sec A46).