BIOSYNTHESIS OF PLANT SECONDARY METABOLITES

Glycolysis
Pentose phosphate pathway
Nucleotide sugers metabolism
Polysaccharide metabolism
Purine metabolism
Caffeine metabolism
Zeatin biosynthesis
Indole alkaloid biosynthesis
Tetrapyrrole biosynthesis
Shikimate pathway
Terpenoid backbone biosynthesis
MEP / DOXP pathway
Mevalonate pathway
Biosynthesis of type II polyketide backbone
Urea cycle
Yang cycle
Citrate cycle
Isoquinoline alkaloid biosynthesis
Biosynthesis of phenylpropanoids
Flavonoid biosynthesis
Flavone and flavonol biosynthesis
Isoflavonoid biosynthesis
Phenylpropanoid biosynthesis
Tropane, piperidine and pyridine alkaloid biosynthesis
Biosynthesis of alkaloids derived from ornithine, lysine and nicotinate
Biosynthesis of alkaloids derived from terpenoid and polyketide
Monoterpenoid biosynthesis
Iridoid biosynthesis
Steroid biosynthesis
Brassinosteroid biosynthesis
Diterpenoid biosynthesis
Carotenoid biosynthesis

Biosynthesis of alkaloids derived from histidine and purine
Biosynthesis of alkaloids derived from shikimate pathway

Imidazole alkaloids
Purine alkaloids
Quinoline alkaloids
Pyrroloindole alkaloids
Quinazoline alkaloids
Acridine alkaloids
Terpenoid indole alkaloids
Simple β-carboline alkaloids
Simple indole alkaloids
Glucosinolate
Ipecac alkaloids
Amaryllidaceae alkaloids
Ephedra alkaloids
Flavonoids
Coumarins
Stilbenes
Condensed tannins
Lignans
Phenylpropanoids
Piperidine alkaloids
Quinolizidine alkaloids
Indolizidine alkaloids
Acetate-derived alkaloids
Saturated fatty acids
Acetylenic fatty acids
Unsaturated fatty acids
Branched-chain fatty acids
Polyunsaturated fatty acids
Monoterpene alkaloids
Monoterpenes (C10)
Iridoids (C9-10)
Secoiridoids (C9-10)
Phytosterols
Steroid saponins (sapogenins)
Brassinosteroids
Diterpenes (C20)
Diterpene alkaloids
Sesquiterpenes
Triterpenes
Tetraterpenes
Plant hormone
Polysaccharides (Amylose, Glycogen, Cellulose, Sucrose, ...)
Prophyrines
Tocopherols
Naphthoquinones
Biosynthesis of terpenoid and steroid

Xanthine
XMP
IMP
FAICAR
AICAR
PRPP
D-Glucose
Glucose-6P
Glucose-1P
UDP-Glucose
L-Histidine
GMP
AMP
Zeatin
Fructose-6P
Fructose-1,6P2
Erythrose-4P
Glyceraldehyde-3P
Glycerate-1,3P2
Glycerate-3P
Glycerate-2P
PEP
Pyruvate
Acetyl-CoA
Serine
Glycine
L-Cysteine
5-Aminolevulinate
Heme
Chlorophyll a
1-Deoxy-D-xylulose 5P
2-C-Methyl-D-erythritol-4P
Mevalonate
HMG-CoA
Malonyl-CoA
Dimethylallyl-PP
Isopentenyl-PP
Geranyl-PP
Farnesyl-PP
Geranylgeranyl-PP
Phytyl-PP
Geraniol
Squalene
Squalene-2,3-oxide
Lupane
Cycloartenol
Oleanan
Ursan
Lycopene
Phytoene
β-Carotene
γ-Carotene
α-Carotene
Abscisate
Vitamin E
Vitamin K
Gibberellin
Acyclic
Labdane-type
Cembrane-type
Sennoside
R=H, Visnagin
R=OMe, Khellin
β-Myrcene
Menthane
Pinane
Bornane
Camphane
Thujane
Carane
Fenchane
Fucosterol
Sitosterol
Stigmasterol
Campesterol
Diosgenin
Hecogenin
Brassinolide
Castasterone
Octanoate (8:0)
Palmitate (16:0)
Stearate (18:0)
(elongation)
unsaturation
Crepenynate (18:2)
Dehydrocrepenynate (18:3)
2-Decene-4,6,8-triynoate (10:4)
Oleate (18:1)
Linoleate (18:2)
α-Linolenate (18:3)
Sterculate
Jasmonate
γ-Coniceine
Coniine
Tryptophan
Tryptamine
Strictosidine
Strictosamide
Secologanin
Iboga type
Aspidosperma type
Corynanthe type
Tryptophan
Anthranilate
Quinoline
Pyrroloquinoline
Pyrroloindole
Auxin
Quinazoline
Acridine
Glucosinolate from tryptophane
Prephenate
Chorismate
L-Phenylalanine
Shikimate
3-Dehydroshikimate
L-Leucine
L-Valine
L-Alanine
L-Isoleucine
L-Threonine
L-Asparagine
L-Aspartate
Pyridine
Nicotinic acid
Quinolinic acid
3-Phospho-glyceraldehyde
Oxaloacetate
(S)-Malate
Fumarate
Succinate
Succinyl-CoA
2-Oxoglutarate
Citrate
cis-Aconitate
Isocitrate
4-Methylthio-2-oxobutanoate
5-Methylthioribose 1-phosphate
5-Methylthioribose
5'-Methy-thioadenosine
S-Adenosyl-L-methionine
L-Methionine
1-Aminocyclopropane-1-carboxylate
Ethylene
ACC
Glucosinolate
Chain elongated methionine
Glucosinolate from methionine
Cadaverine
L-Lys
Quinolizidine
Δ1-Piperideine
Piperidine
α-Aminoadipate δ-semialdehyde
Piperideine-6-carboxylate
L-Lysine
L-Glutamate
L-Glutamine
L-Ornithine
L-Arginine
Pipecolate
Indolizidine
Putrescine
N-Methyl-Δ1-pyrrolinium cation
Pyrrolidine
Tropan
Homospermidine
Pyrrolizidine
Tyrosine
Tyramine
Dopamine
L-DOPA
Phenylethylamine
Tetrahydroisoquinoline
Phenethyl-isoquinoline
p-Hydroxyphenylacetaldehyde
p-Hydroxyphenylpyruvate
4-Hydroxyphenylpyruvate
Phenylpyruvate
L-Phe
L-Tyr
L-Val
Malonyl-CoA
Berberine
Phthalideisoquinoline
Morphinan
Tetrahydroprotoberberine
Benzisoquinoline
Rhoeadine
Protopine
Benzo[c]phenanthridine
Capsaicin
Pyruvate
Catechin
Flavonol
Stilbene
Coumarin
Leucoanthocyanidin
Flavanonol
Flavanone
Chalcone
Cinnamate
Cinnamaldehyde
Cinnamyl alcohol
Lignins
Anthocyanidin
Isoflavone
Aurone
Dibenzocyclooctadiene
2,6-Diarylhexahydrofuranofuran
Lignans
Tetrahydronaphthalene
Diarylbutane

Mevalonic acid pathway
Deoxy xyulose pathway

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