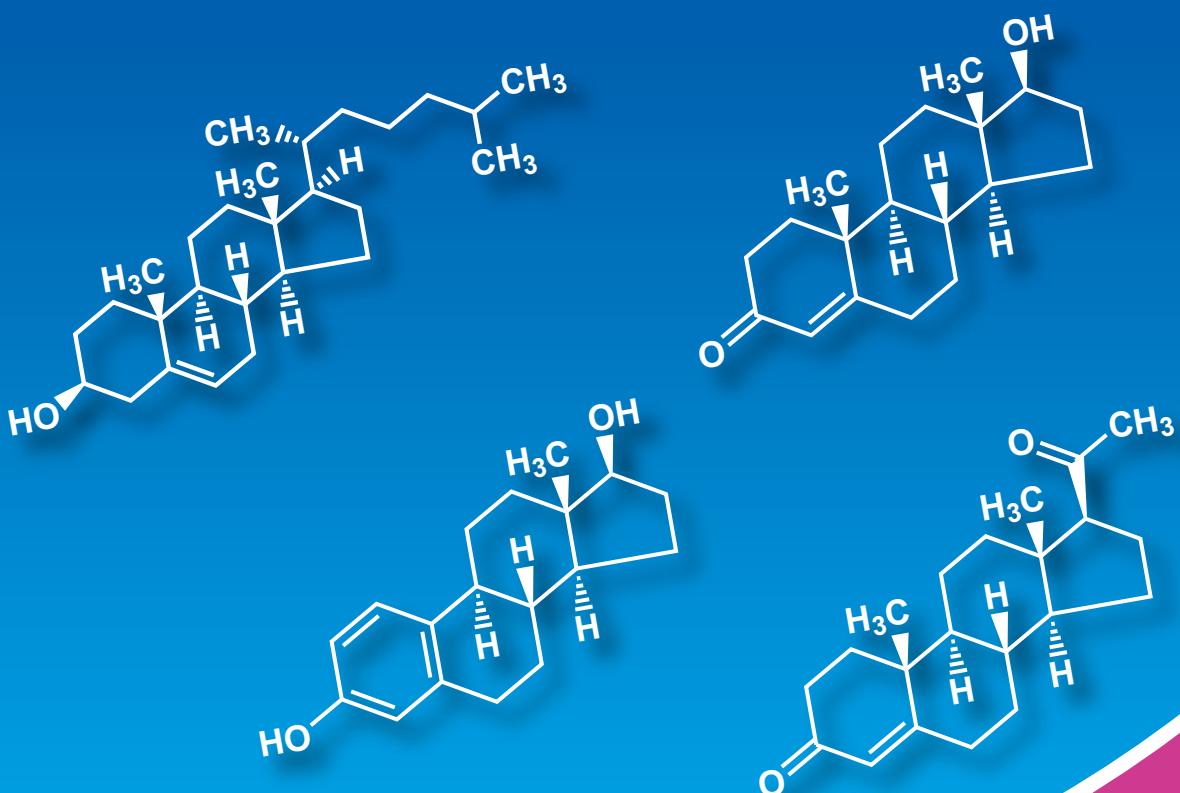


Steroids



Estranes

Androstanes

Pregnanes

Cholanes

Cholestanes

Phytosteroids

Steroid Glycosides

Steroids

Steroids are compounds consisting of four fused rings, for example, the most common and best known steroid in humans, cholesterol. In animals, steroids are biosynthesized from lanosterol and are widely distributed. The distinctive feature in steroids is lack of methyl group at C-4 position as compared to terpenes. In this section, we have classified steroids into five basic categories based upon their chemical composition (Fig.1).

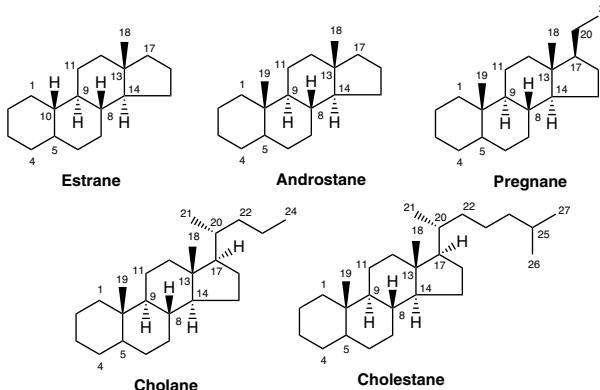


Figure 1. Typical chemical structure of steroids

Steroid Hormones: Estranes, Androstanes, Pregnanes

Certain kinds of steroids like estrogens, androstanes and pregnanes can act as hormones, their activities being closely related to their structures (Table 1). Pregnan-type steroids can be classified into corticoids and progestogens based on their bioactivities. Their classification and the typical compounds in each category are illustrated as follows:

Hormones	Synonym	Typical Compound	Structure
Estrogen	Female Sex Hormone	Estradiol	Estrane Type
Androgen	Male Sex Hormone	Testosterone	Androstane Type
Corticoid	Adrenocorticotrophic Hormone	Cortisone	Pregnane Type
Progestogen	Gestagene	Progesterone	Pregnane Type

Table 1. Classification of steroid hormones

Estrogens: Estrogens function as the primary female sex hormone and in combination with synthetic progestogens can be used as oral contraceptives to suppress ovulation. Recently, it is also reported that they are effective for the prevention of osteoporosis, heart attacks and Alzheimer's disease in women.

Androgens: Testosterone is not only the principal and most well known male sex hormone but is also known to exert anabolic effects. This is also the main reason why some of them have been banned from use as bone density enhancers and muscle-building drugs by several sports organizations. They are also the intermediates of estrogen biosynthetic pathway or rather the precursors of all estrogens.

Progestogens: The only naturally occurring progestogen, i.e., progesterone, exhibits antiovulatory action. Based on its structure, derivatives of 19-nortestosterone were synthesized and can be used as oral contraceptives.

Corticoids: Synthetic corticoids such as dexamethasone and prednisolone find clinical use as anti-inflammatory agents. They are synthetically developed based on the structure of cortisone, a natural corticoid.

WARNING

Some of the steroid hormones may cause serious physiological actions. To avoid inhalation and contacting with skin, wear protective goggles, mask and eyeglasses when handling. Sufficient caution should be taken, when using these compounds, from the opening up to the disposal of the reagents.

Bile Acids: Cholanes

Cholane type steroids are predominantly found in the bile. Cholic acid and its derivatives exist in bile as the major component as conjugates of glycine and taurine. Since conjugated cholates are amphiphilic, they assist in the digestion and absorption of lipids in small intestine. This characteristic is also exploited also in its use as a surfactant.

Cholesterol: Cholestanes

Cholesterol possesses a cholestan-type skeleton and in conjugation with fatty acids, it forms the main component of cell membranes in animals and microorganisms. These cholesterol conjugates establish and maintain proper membrane permeability. In addition, it is a precursor of steroids as mentioned above and also exists in its liberated form in organisms.

Phytosteroids, Steroid Glycosides, Other Steroids

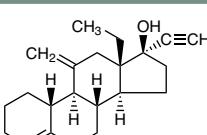
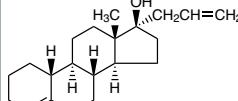
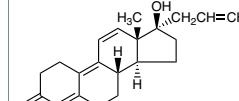
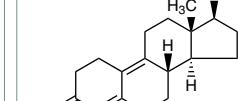
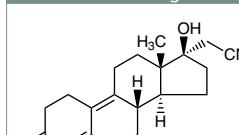
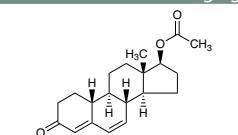
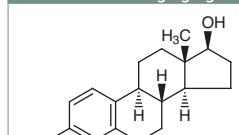
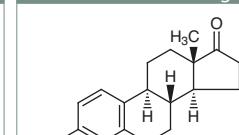
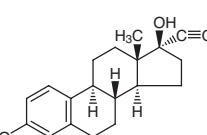
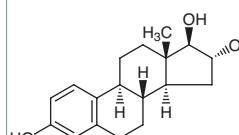
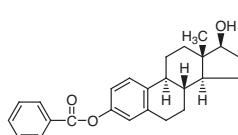
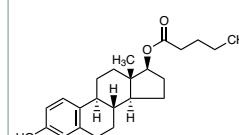
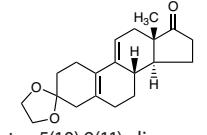
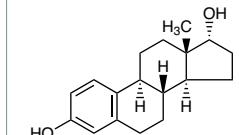
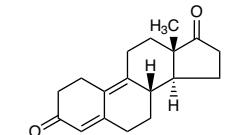
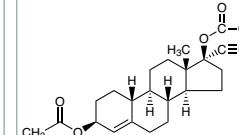
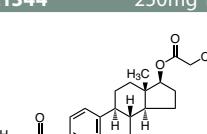
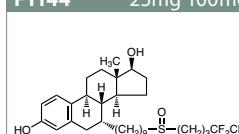
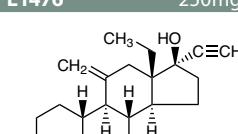
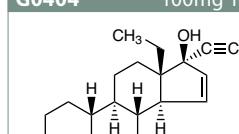
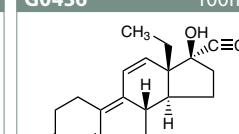
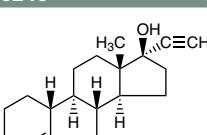
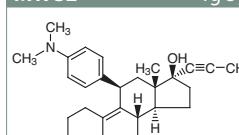
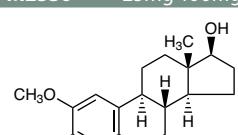
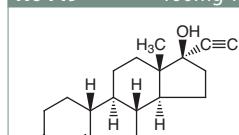
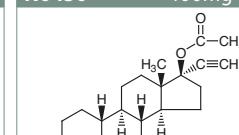
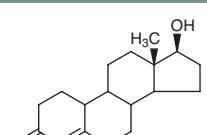
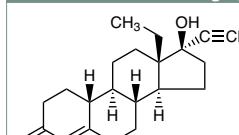
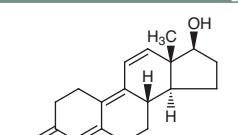
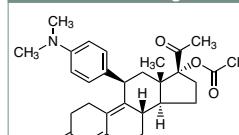
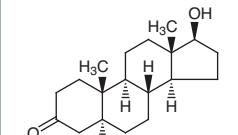
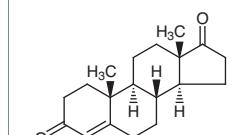
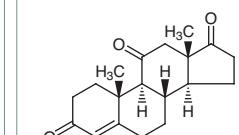
Steroids of plant origin have different biosynthetic pathways: they are synthesized from cycloartenol. They possess structural features distinct from animal steroids, for instance, a characteristic alkyl side-chain at C-24. Steroid glycosides and their aglycones are also listed in this section.

All TCI's chemicals are for testing or research purposes only.

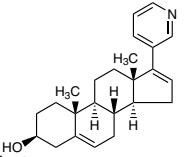
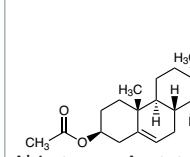
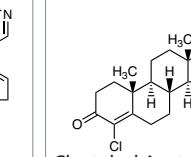
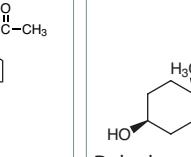
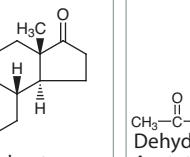
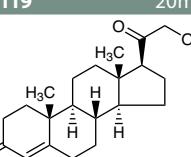
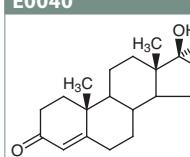
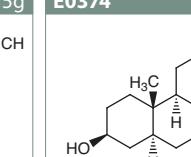
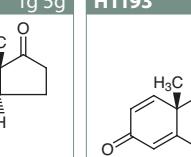
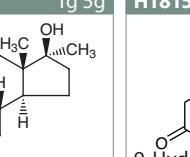
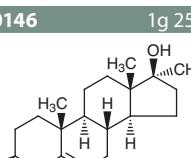
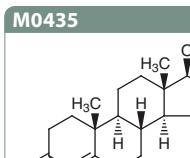
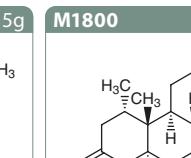
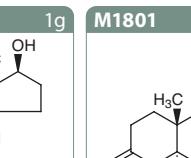
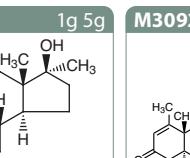
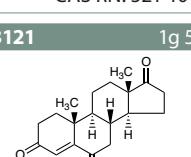
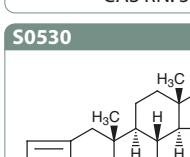
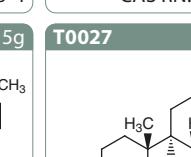
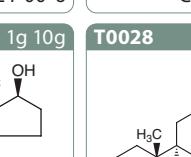
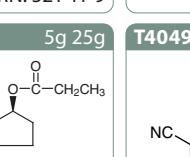
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P. M. Dewick, in *Medicinal Natural Products*, 3rd ed., John Wiley & Sons, Chichester, 2009, pp. 247-298.

Estranes

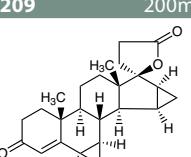
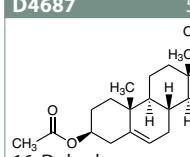
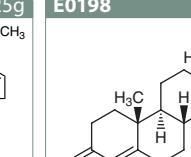
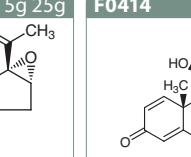
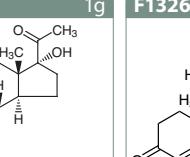
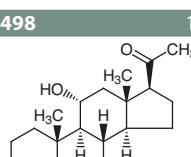
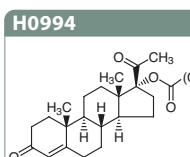
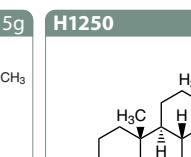
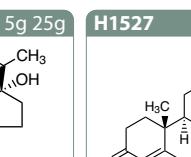
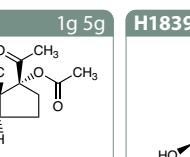
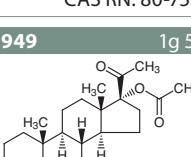
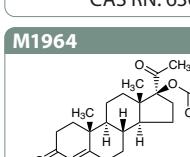
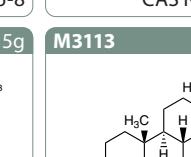
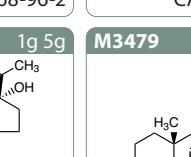
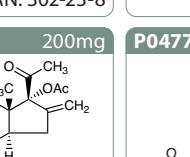
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Androstanes

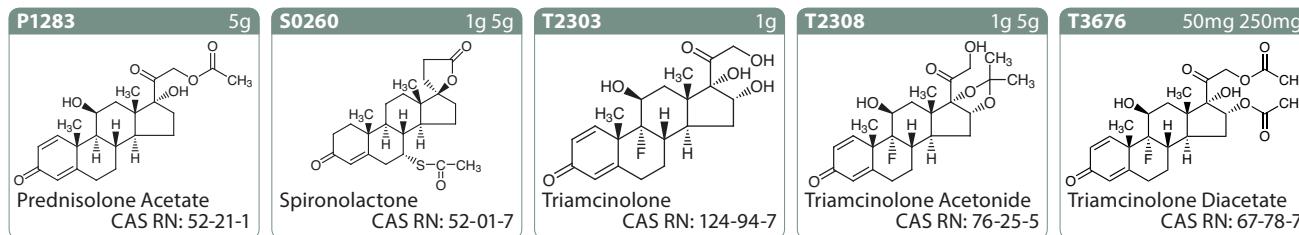
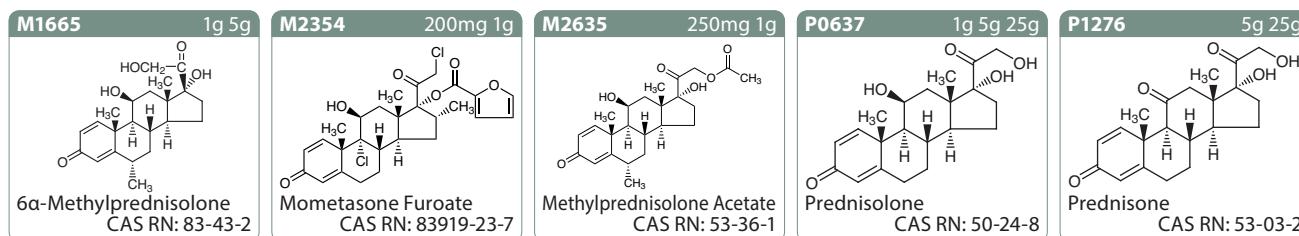
A2868 20mg 200mg  Abiraterone CAS RN: 154229-19-3	A2891 200mg 1g  Abiraterone Acetate CAS RN: 154229-18-2	C3497 25mg 200mg  Clostebol Acetate CAS RN: 855-19-6	D0044 1g 5g 25g  Dehydroepiandrosterone CAS RN: 53-43-0	D0045 5g 25g  Dehydroepiandrosterone Acetate CAS RN: 853-23-6
D6119 20mg  21-Hydroxyprogesterone CAS RN: 64-85-7	E0040 1g 5g  Ethisterone CAS RN: 434-03-7	E0374 1g 5g  Epiandrosterone CAS RN: 481-29-8	H1193 1g 5g  Dianabol CAS RN: 72-63-9	H1815 1g  9-Hydroxyandrost-4-ene-3,17-dione CAS RN: 560-62-3
M0146 1g 25g  Methylandrostenediol CAS RN: 521-10-8	M0435 1g 5g  Methyltestosterone CAS RN: 58-18-4	M1800 1g  Mesterolone CAS RN: 1424-00-6	M1801 1g 5g  Mestaline CAS RN: 521-11-9	M3092 200mg 1g  Methenolone Enanthate CAS RN: 303-42-4
M3121 1g 5g  6-Methyleneandrost-4-ene-3,17-dione CAS RN: 19457-55-7	S0530 1g 5g  Stanozolol CAS RN: 10418-03-8	T0027 1g 10g  Testosterone CAS RN: 58-22-0	T0028 5g 25g  Testosterone Propionate CAS RN: 57-85-2	T4049 200mg 1g  Trilostane CAS RN: 13647-35-3

Pregnanes

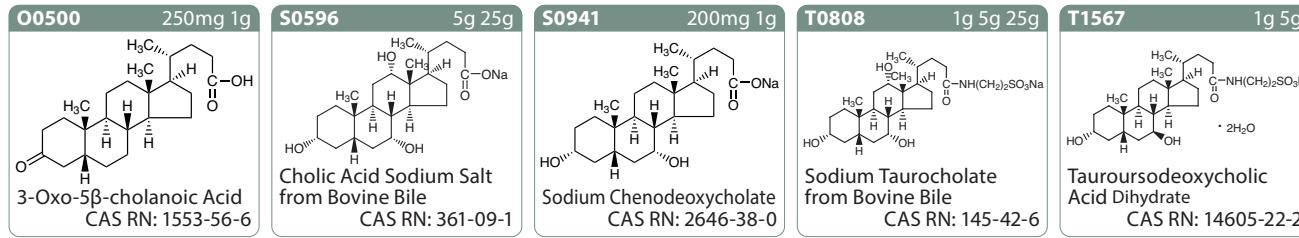
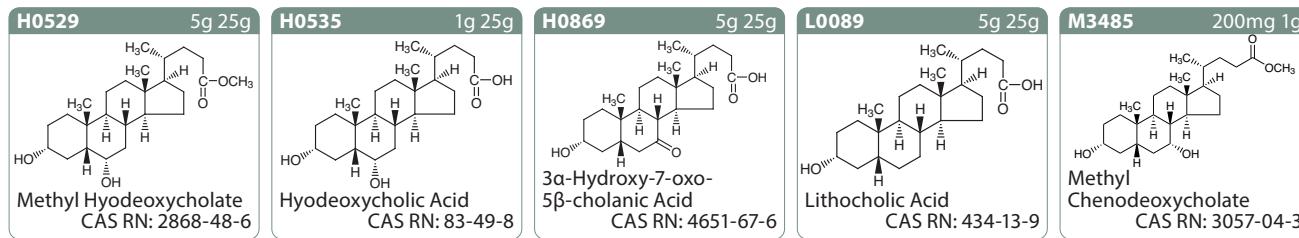
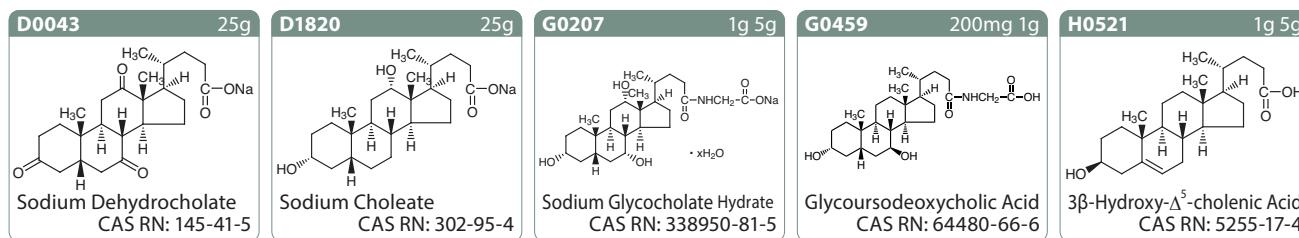
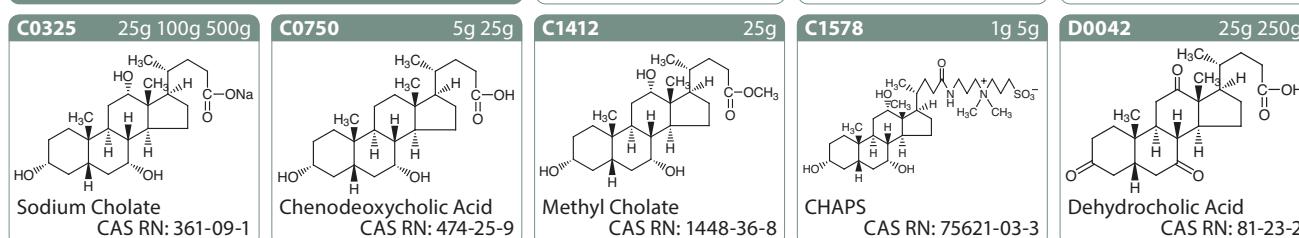
Progesterogen

D4209 200mg  Drosiprenone CAS RN: 67392-87-4	D4687 5g 25g  16-Dehydropregnenolone Acetate CAS RN: 979-02-2	E0198 1g 5g 25g  16,17-Epoxyprogesterone CAS RN: 1097-51-4	F0414 1g  Fluorometholone CAS RN: 426-13-1	F1326 100mg 1g  Fluorogestone Acetate CAS RN: 2529-45-5
H0498 1g  11α-Hydroxyprogesterone CAS RN: 80-75-1	H0994 5g  17α-Hydroxyprogesterone Caproate CAS RN: 630-56-8	H1250 5g 25g  17α-Hydroxyprogesterone CAS RN: 68-96-2	H1527 1g 5g  17α-Hydroxyprogesterone Acetate CAS RN: 302-23-8	H1839 1g  3β-Hydroxy-5α-pregnan-20-one CAS RN: 516-55-2
M1949 1g 5g  Megestrol Acetate CAS RN: 595-33-5	M1964 1g 5g  Medroxyprogesterone Acetate CAS RN: 71-58-9	M3113 1g 5g  Medroxyprogesterone CAS RN: 520-85-4	M3479 200mg  Melengestrol Acetate CAS RN: 2919-66-6	P0477 1g 10g  Pregnenolone Acetate CAS RN: 1778-02-5

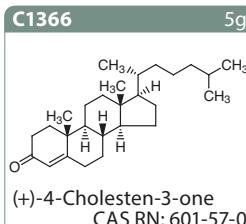
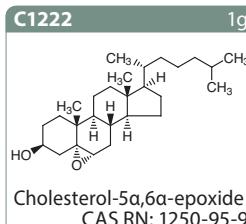
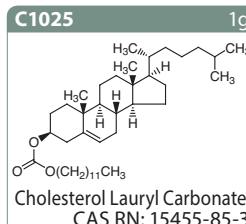
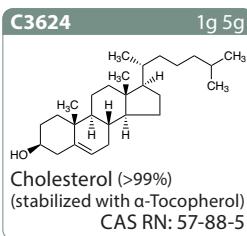
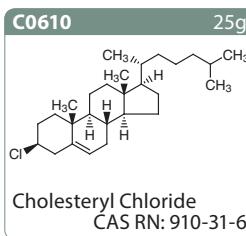
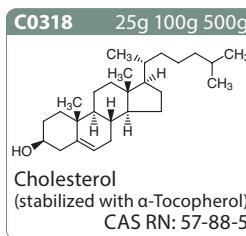
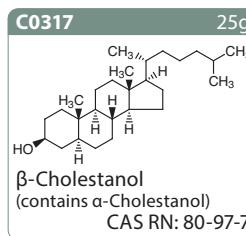
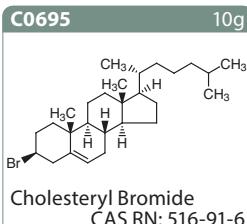
P0478 Progesterone CAS RN: 57-83-0	P0678 5 β -Pregnane-3 α ,20 α -diol CAS RN: 80-92-2	P0771 4-Pregnene-3,11,20-trione CAS RN: 516-15-4	P0786 Pregnenolone CAS RN: 145-13-1	P2423 5 α -Pregnane-3,20-dione CAS RN: 566-65-4
P2623 Δ^6 -Progesterone CAS RN: 1162-56-7	Corticoids			
B3166 Betamethasone 17,21-Dipropionate CAS RN: 5593-20-4	B3909 Budesonide CAS RN: 51333-22-3	B4110 Betamethasone 21-Phosphate Disodium Salt CAS RN: 151-73-5	B4464 Beclometasone Dipropionate CAS RN: 5534-09-8	C0388 Corticosterone CAS RN: 50-22-6
C0389 Cortisone Acetate CAS RN: 50-04-4	C1317 Cortisone CAS RN: 53-06-5	C1478 Cortexolone CAS RN: 152-58-9	C2612 Clobetasol 17-Propionate CAS RN: 25122-46-7	C3510 Clobetasone Butyrate CAS RN: 25122-57-0
C3701 Ciclesonide CAS RN: 126544-47-6	D0047 Doca CAS RN: 56-47-3	D1961 Dexamethasone CAS RN: 50-02-2	D3628 Dexamethasone 21-Acetate CAS RN: 1177-87-3	D3918 Disodium Prednisolone 21-Phosphate CAS RN: 125-02-0
D4523 Deflazacort CAS RN: 14484-47-0	D5515 Desoximetasone CAS RN: 382-67-2	D5578 Desonide CAS RN: 638-94-8	D5579 Difluprednate CAS RN: 23674-86-4	E0905 Eplerenone CAS RN: 107724-20-9
F0437 Flunisolide CAS RN: 3385-03-3	F0525 Fluticasone Propionate CAS RN: 80474-14-2	F0657 Fluocinolone Acetonide CAS RN: 67-73-2	F0945 Flumetasone CAS RN: 2135-17-3	H0184 Hydrocortisone Acetate CAS RN: 50-03-3
H0533 Hydrocortisone CAS RN: 50-23-7	H1457 Halobetasol Propionate CAS RN: 66852-54-8	H1506 Hydrocortisone 17-Butyrate CAS RN: 13609-67-1	H1672 Halcinonide CAS RN: 3093-35-4	L0327 Loteprednol Etabonate CAS RN: 82034-46-6



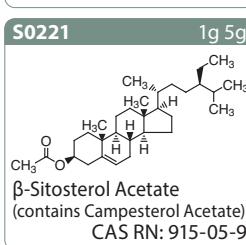
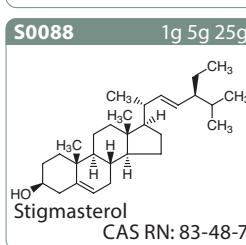
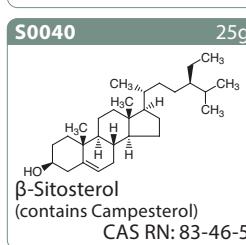
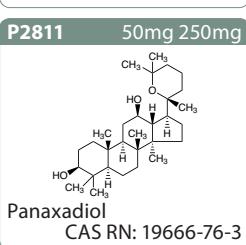
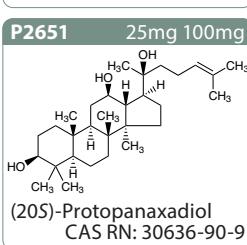
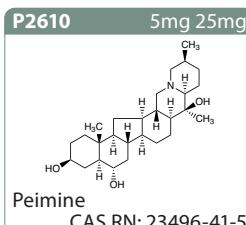
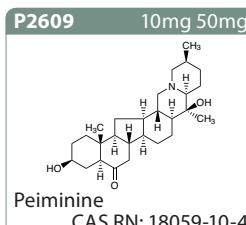
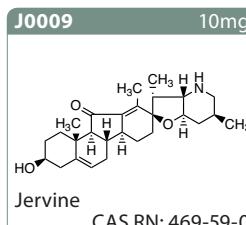
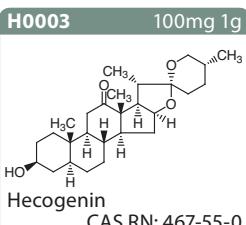
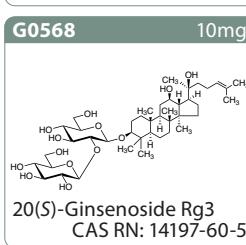
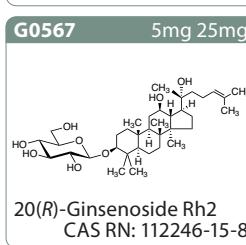
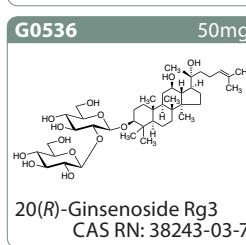
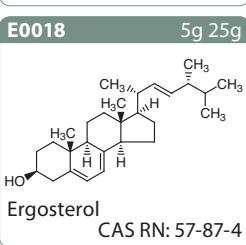
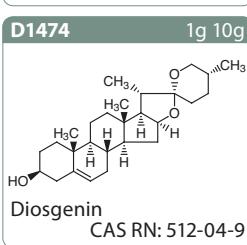
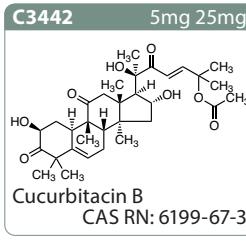
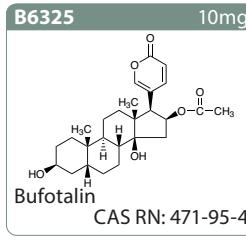
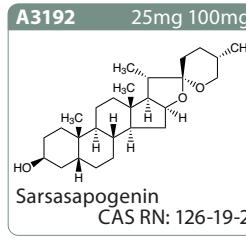
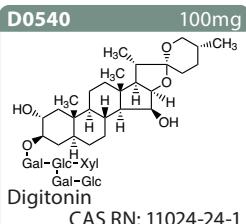
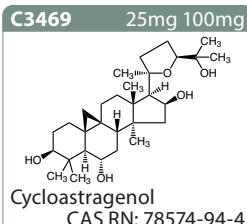
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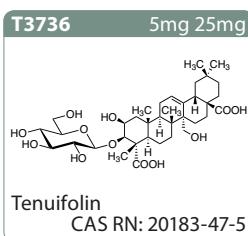
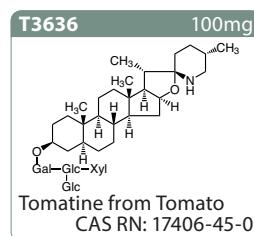


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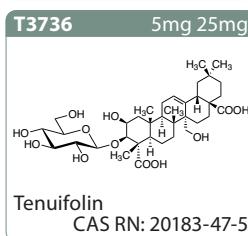
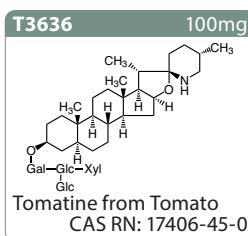
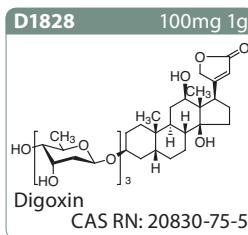
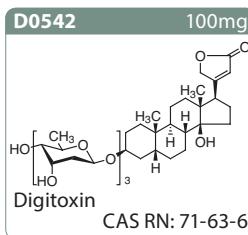
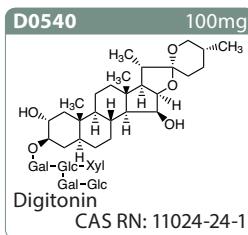
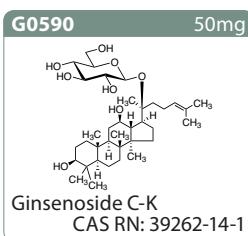
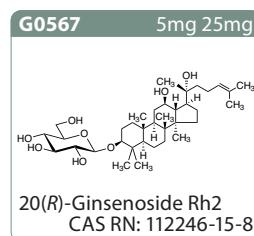


Phytosteroids

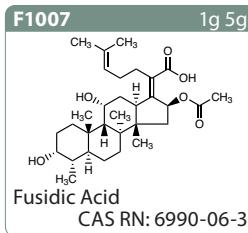
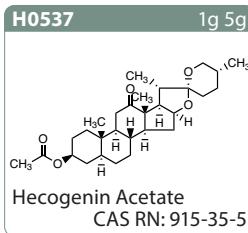
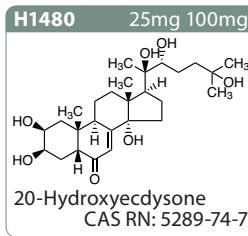
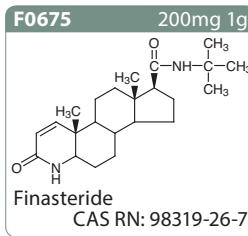
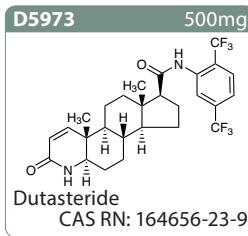
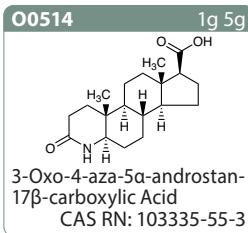
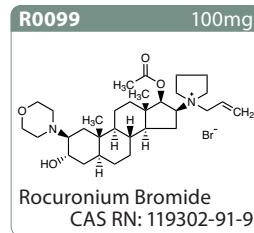




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