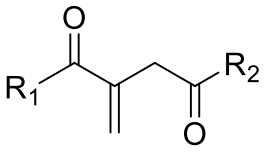
CLAIMS

1. A compound of formula (I):

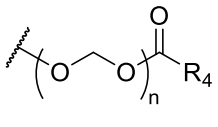


(I);

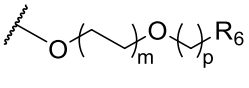
wherein:

R_1 and R_2 can be the same or different and are each independently selected from one or more of the following and combinations thereof:

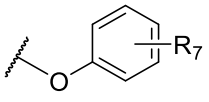
(a) $–OR_3$, wherein R_3 is H or C_1-C_6 straight-chain or branched unsubstituted or substituted alkyl;

(b) 

, wherein n is an integer selected from 1, 2, 3, and 4; R_4 is C_1-C_6 straight-chain or branched unsubstituted or substituted alkyl or $–OR_5$, wherein R_5 is C_1-C_6 straight-chain or branched unsubstituted or substituted alkyl;

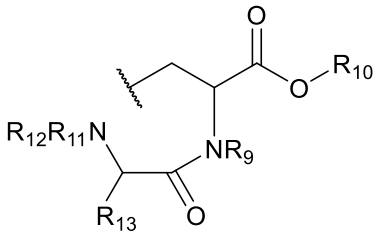
(c) 

, wherein m is an integer selected from 1, 2, 3, and 4; p is an integer selected from 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, and 20; and R_6 is C_1-C_6 straight-chain or branched unsubstituted or substituted alkyl;

(d) 

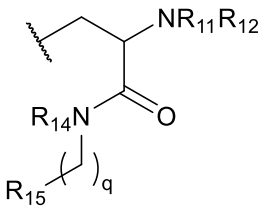
, wherein R_7 is selected from:

(i) $–C(=O)-O-R_8$, wherein R_8 is C_1-C_6 straight-chain or branched unsubstituted or substituted alkyl;

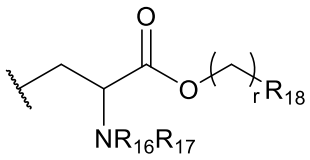
(ii) 

, wherein R_9 is H or C_1-C_4 straight-chain or branched unsubstituted or substituted alkyl; R_{10} is C_1-C_6 straight-chain or branched unsubstituted or substituted alkyl; R_{11} and R_{12} are each

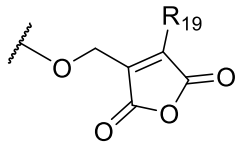
independently H or a protecting group; and R_{13} is C_1-C_6 straight-chain or branched unsubstituted or substituted alkyl;

(iii) 

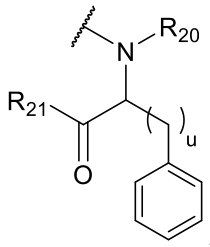
, wherein q is an integer selected from 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10; R_{11} and R_{12} are each independently H or a protecting group; R_{14} is H or C_1-C_4 straightchain or branched unsubstituted or substituted alkyl; and R_{15} is C_1-C_6 straight-chain or branched unsubstituted or substituted alkyl; and

(iv) 

, wherein R_{16} and R_{17} are each independently selected from H, C_1-C_4 straight-chain or branched unsubstituted or substituted alkyl, and a protecting group; R_{18} is aryl;

(e) 

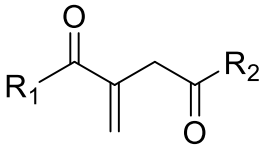
, wherein R_{19} is C_1-C_4 straight-chain or branched unsubstituted or substituted alkyl;

(f) 

, wherein u is an integer selected from 1, 2, 3, and 4; R_{20} is H or C_1-C_4 straight-chain or branched unsubstituted or substituted alkyl; and R_{21} is $–OR_{22}$, wherein R_{22} is C_1-C_6 straightchain or branched unsubstituted or substituted alkyl or $–NR_{23}R_{24}$, wherein R_{23} and R_{24} are each independently H or C_1-C_4 straightchain or branched unsubstituted or substituted alkyl;

and pharmaceutically acceptable salts thereof for use in therapy.

2. Use of a compound of formula (I):

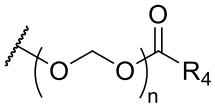


(I);

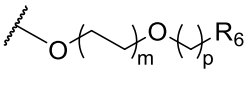
wherein:

R_1 and R_2 can be the same or different and are each independently selected from one or more of the following and combinations thereof:

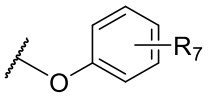
(a) $–OR_3$, wherein R_3 is H or C_1-C_6 straight-chain or branched unsubstituted or substituted alkyl;

(b) 

, wherein n is an integer selected from 1, 2, 3, and 4; R_4 is C_1-C_6 straight-chain or branched unsubstituted or substituted alkyl or $–OR_5$, wherein R_5 is C_1-C_6 straight-chain or branched unsubstituted or substituted alkyl;

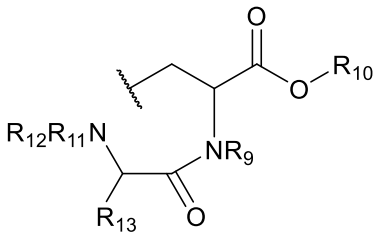
(c) 

, wherein m is an integer selected from 1, 2, 3, and 4; p is an integer selected from 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, and 20; and R_6 is C_1-C_6 straight-chain or branched unsubstituted or substituted alkyl;

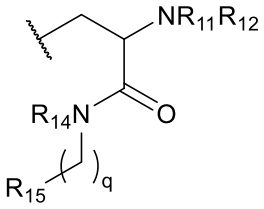
(d) 

, wherein R_7 is selected from:

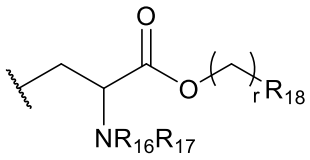
(i) $–C(=O)-O-R_8$, wherein R_8 is C_1-C_6 straight-chain or branched unsubstituted or substituted alkyl;

(ii) 

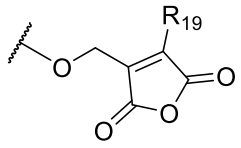
, wherein R_9 is H or C_1-C_4 straight-chain or branched unsubstituted or substituted alkyl; R_{10} is C_1-C_6 straight-chain or branched unsubstituted or substituted alkyl; R_{11} and R_{12} are each independently H or a protecting group; and R_{13} is C_1-C_6 straight-chain or branched unsubstituted or substituted alkyl;

(iii) 

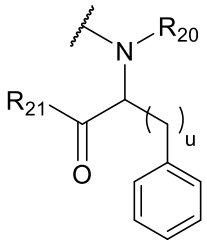
, wherein q is an integer selected from 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10; R_{11} and R_{12} are each independently H or a protecting group; R_{14} is H or C_1-C_4 straightchain or branched unsubstituted or substituted alkyl; and R_{15} is C_1-C_6 straight-chain or branched unsubstituted or substituted alkyl; and

(iv) 

, wherein R_{16} and R_{17} are each independently selected from H, C_1-C_4 straight-chain or branched unsubstituted or substituted alkyl, and a protecting group; R_{18} is aryl;

(e) 

, wherein R_{19} is C_1-C_4 straight-chain or branched unsubstituted or substituted alkyl;

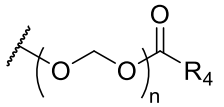
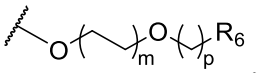
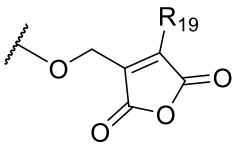
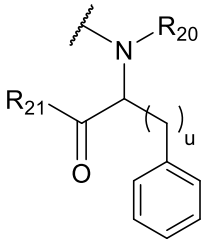
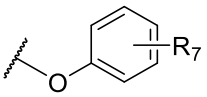
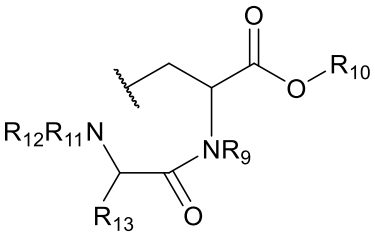
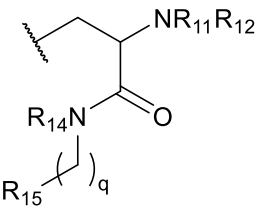
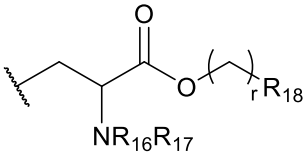
(f) 

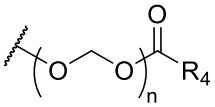
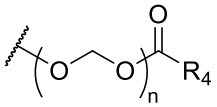
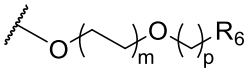
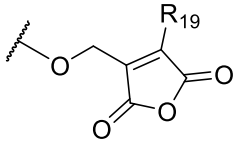
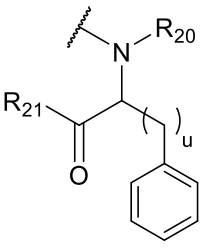
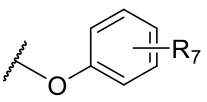
, wherein u is an integer selected from 1, 2, 3, and 4; R_{20} is H or C_1-C_4 straight-chain or branched unsubstituted or substituted alkyl; and R_{21} is $–OR_{22}$, wherein R_{22} is C_1-C_6 straightchain or branched unsubstituted or substituted alkyl or $–NR_{23}R_{24}$, wherein R_{23} and R_{24} are each independently H or C_1-C_4 straightchain or branched unsubstituted or substituted alkyl;

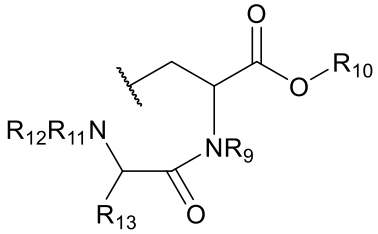
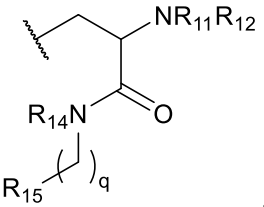
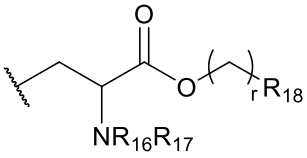
and pharmaceutically acceptable salts thereof in the manufacture of a medicament for inducing hair growth or treating an inflammatory skin condition, or immune activation condition (adaptive or innate), or other condition associated with hair loss in a subject in need

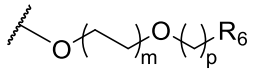
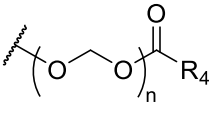
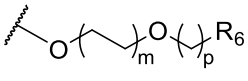
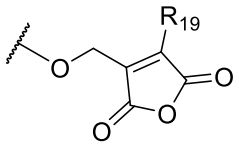
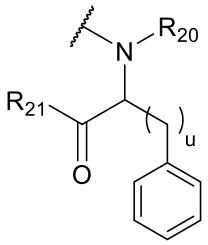
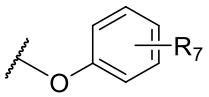
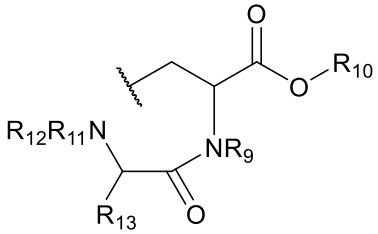
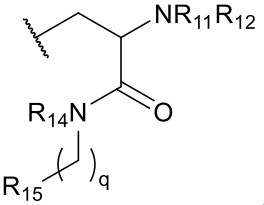
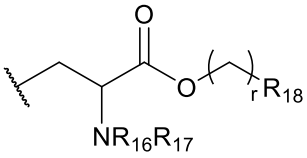
of treatment thereof, wherein a therapeutically effective amount of the compound is to be administered to the subject.

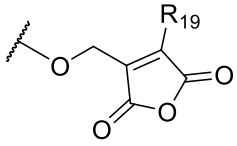
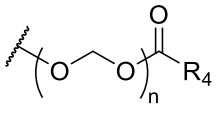
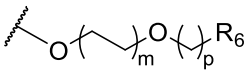
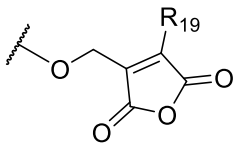
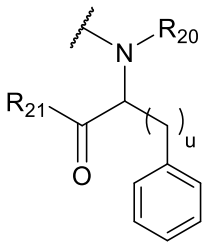
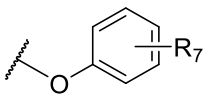
3. The use of claim 2, wherein:

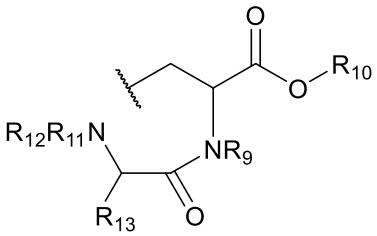
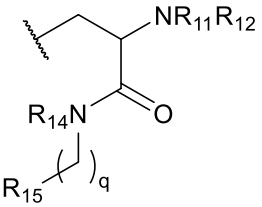
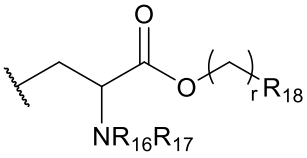
(a) R_1 is $-OR_3$ and R_2 is selected from $-OR_3$, , , , , and , wherein R_7 is selected from $-C(=O)-O-R_8$, , , and ;

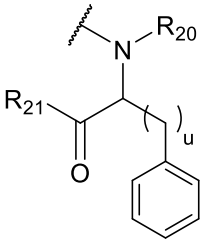
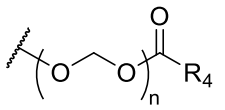
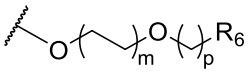
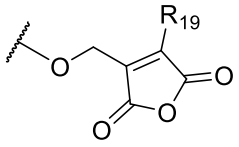
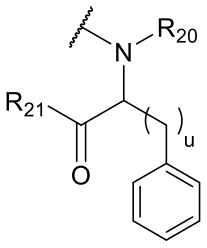
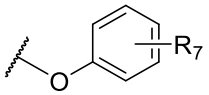
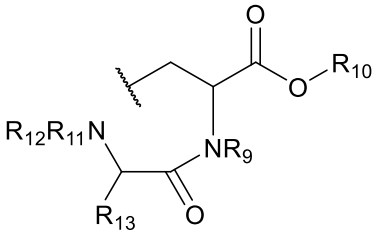
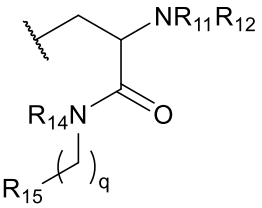
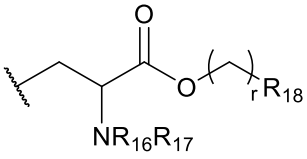
(b) R_1 is  and R_2 is selected from $-OR_3$, , , , , and , wherein R_7

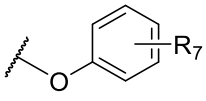
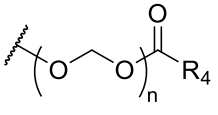
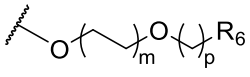
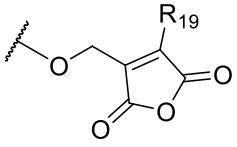
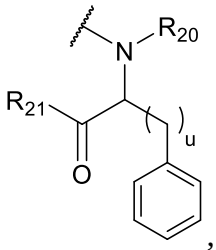
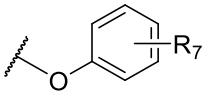
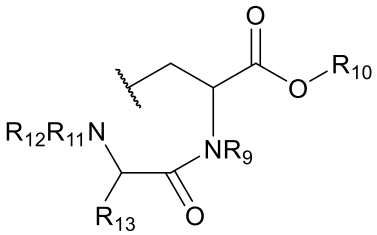
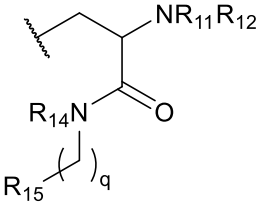
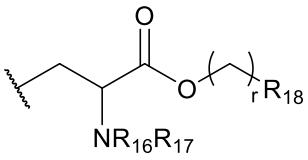
is selected from –C(=O)-O-R_8,  ,  , and  ;

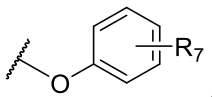
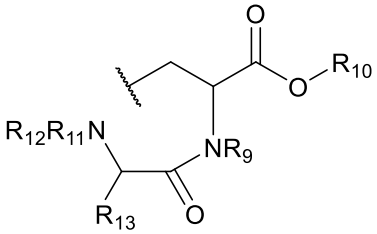
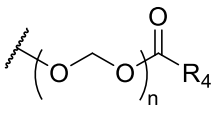
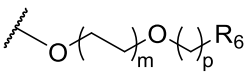
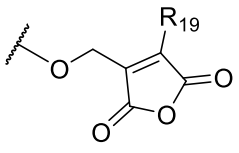
(c) R_1 is  and R_2 is selected from –OR_3,  ,  ,  ,  , and  , wherein R_7 is selected from –C(=O)-O-R_8,  ,  , and  ;

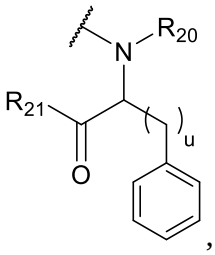
(d) R_1 is  and R_2 is selected from –OR_3,  ,  ,  ,  , and  , wherein R_7

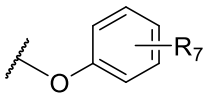
is selected from –C(=O)-O-R_8, , , and ;

(e) R_1 is  and R_2 is selected from –OR_3, , , , , and , wherein R_7 is selected from –C(=O)-O-R_8, , , and ;

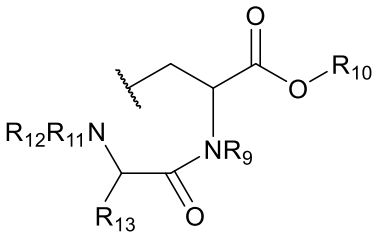
(f) R_1 is , wherein R_7 is –C(=O)-O-R_8 and R_2 is selected from –OR_3, , , , , and , wherein R_7 is selected from –C(=O)-O-R_8, , , and ;

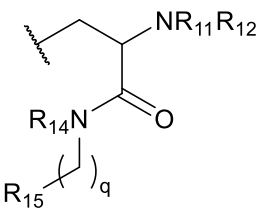
(g) R_1 is , wherein R_7 is  and R_2 is selected from –OR_3, , , ,

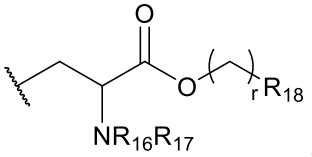


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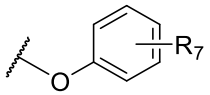
, wherein R_7 is selected from –C(=O)-O-R_8,

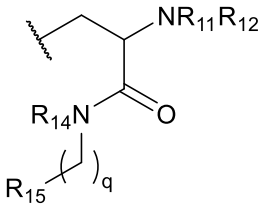


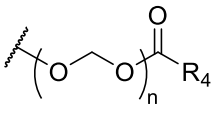
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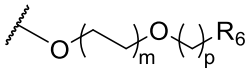
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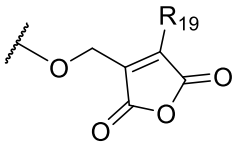
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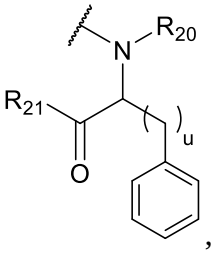
(h) R_1 is 

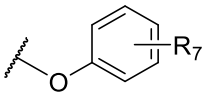
, wherein R_7 is 

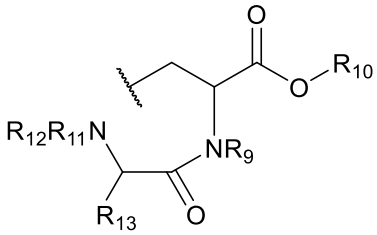
and R_2 is selected from –OR_3, 

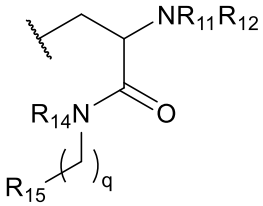
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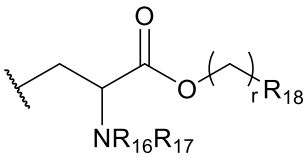
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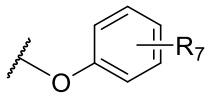
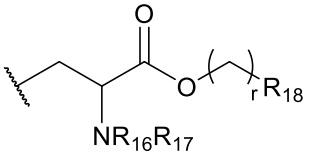
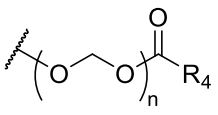
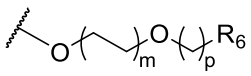
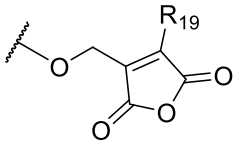
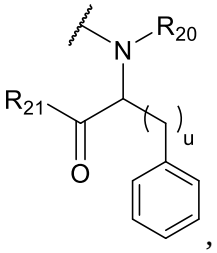
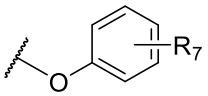
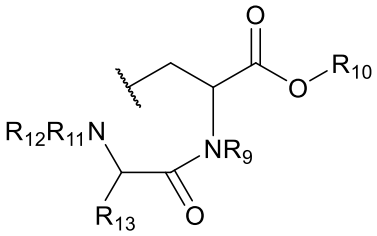
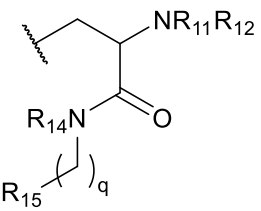
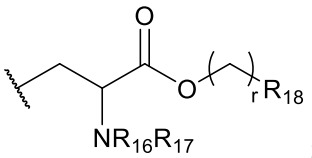
, and 

, wherein R_7 is selected from –C(=O)-O-R_8, 

, 

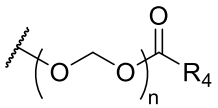
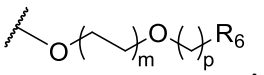
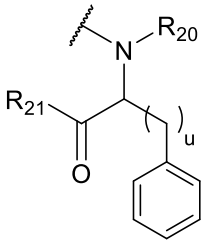
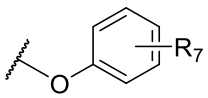
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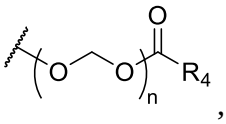
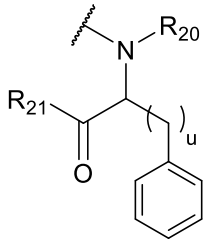
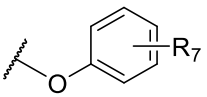
; and

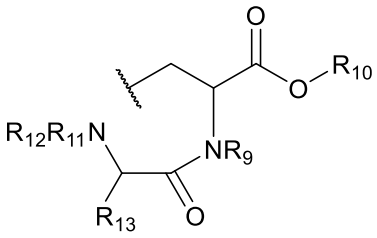
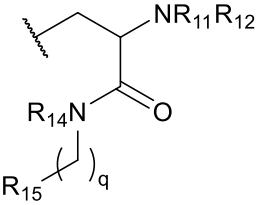
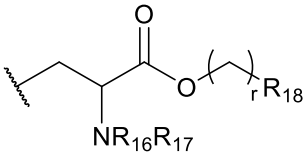
(i) R_1 is , wherein R_7 is  and R_2 is selected from $-OR_3$, , , , , and , wherein R_7 is selected from $-C(=O)-O-R_8$, , , and ;

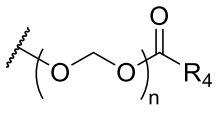
and pharmaceutically acceptable salts thereof.

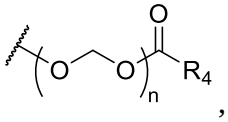
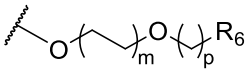
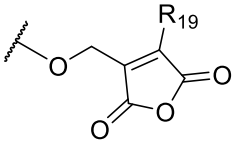
4. The use of claim 2, wherein:

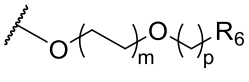
(a-i) R_1 is –OH and R_2 is selected from: -OH, , , , and , wherein R_7 is $-C(=O)-O-R_8$;

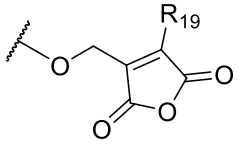
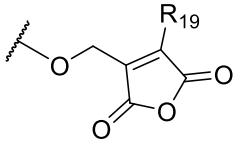
(a-ii) R_1 is $-OR_3$ and R_2 is selected from: , ; and , wherein R_7 is selected from

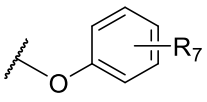
–C(=O)-O-R_8, , , and ;

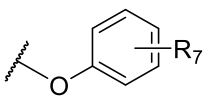
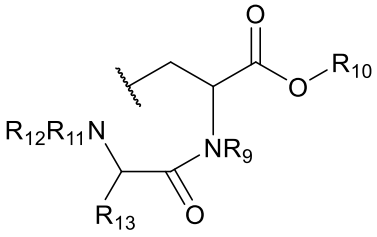
(b) R_1 is  and R_2 is selected from:

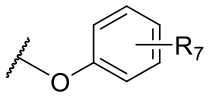
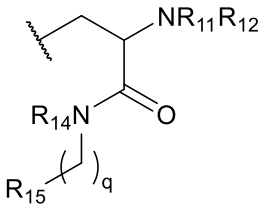
–OR_3, , , and ;

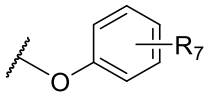
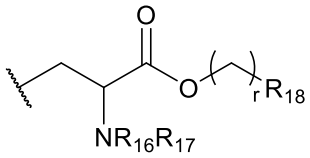
(c) R_1 is  and R_2 is –OR_3;

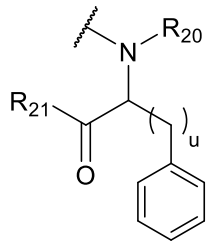
(d) R_1 is  and R_2 is selected from: –OR_3 and ;

(e) R_1 is , wherein R_7 is –C(=O)-O-R_8 and R_2 is –OR_3;

(f) R_1 is , wherein R_7 is  and R_2 is –OR_3;

(g) R_1 is , wherein R_7 is  and R_2 is $-OR_3$;

(h) R_1 is , wherein R_7 is  and R_2 is $-OR_3$; and

(i) R_1 is  and R_2 is $-OR_3$.

5. The use of any of claims 2-4, wherein R_3, R_4, R_5, R_6, R_8, R_9, R_{10}, R_{13}, R_{15}, and R_{22} are each independently selected from methyl, ethyl, n-propyl, isopropyl, n-butyl, sec-butyl, iso-butyl, t-butyl, pentyl, isopentyl, neopentyl, n-hexyl, 2-methylpentane, 3-methylpentane, 2,2-dimethylbutane, and 2,3-dimethylbutane.

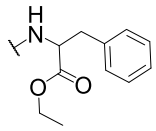
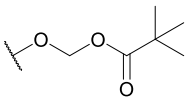
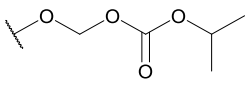
6. The use of any of claims 2-5, wherein R_9, R_{14}, R_{16}, R_{17}, R_{19}, R_{20}, R_{23}, and R_{24} are each independently selected from methyl, ethyl, n-propyl, isopropyl, n-butyl, sec-butyl, iso-butyl, and t-butyl.

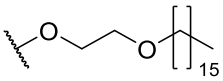
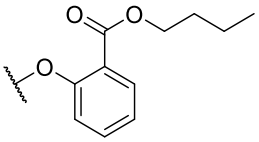
7. The use of any of claims 2-6, wherein the protecting group is selected from tert-butoxycarbonyl (boc), carbobenzyloxy (Cbz), p-Methoxybenzyl carbonyl (Moz or MeOZ), 9-fluorenylmethyloxycarbonyl (Fmoc) group, benzyl (Bn), p-methoxybenzyl (PMB), 3,4-dimethoxybenzyl (DMPM), tosyl (Ts), Troc (trichloroethyl chloroformate), (4-nitrophenyl)sulfonyl (Nosyl), and nitrophenylsulfenyl (Nps).

8. The use of any of claim 2-7, wherein R_{18} is selected from phenyl.

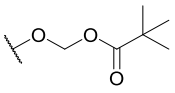
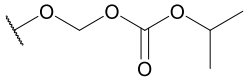
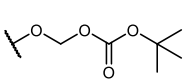
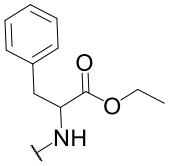
9. The use of any of claims 2-8, wherein:

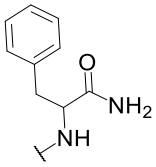
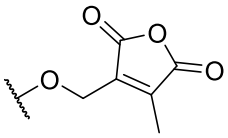
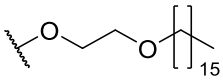
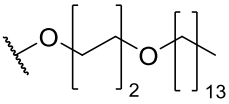
(a-i) R_1 is –OH and R_2 is selected from:

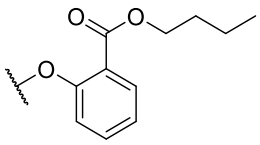
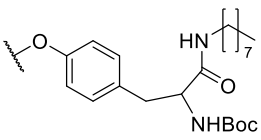
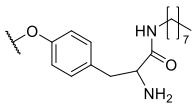
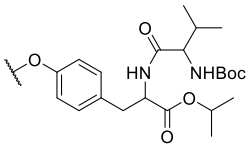
-OH (**1**),  (**2**),  (**8**),  (**22**),

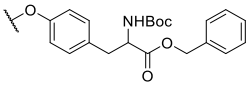
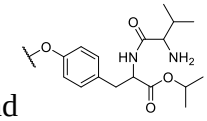
 (**30**), and  (**33**);

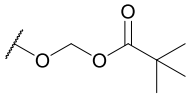
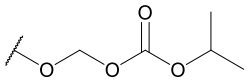
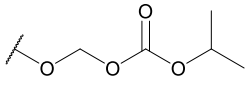
(a-ii) R_1 is selected from –OCH_3, –$OCH(CH_3)_2$, and –$OC(CH_3)_3$ and R_2 is selected from:

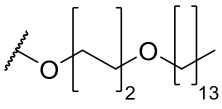
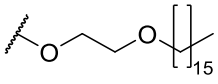
 (**7**, **9**, **23**),  (**21**), ,  (**25**),

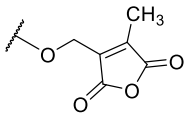
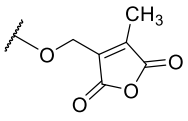
 (**26**),  (**28**),  (**29**),  (**31**),

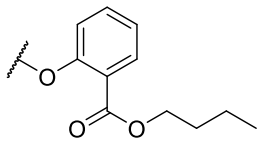
 (**32**),  (**34**),  (**35**), 

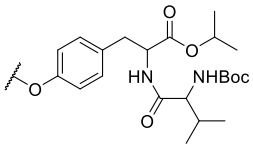
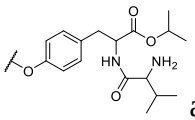
(**36**),  (**37**), and  (**38**);

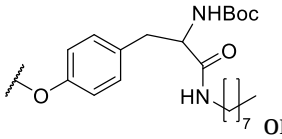
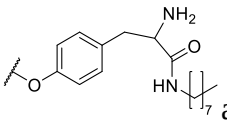
(b) R_1 is  or  and R_2 is –OCH_3 (**5**, **6**) or  (**10**);

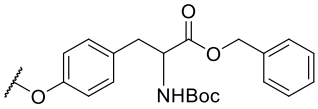
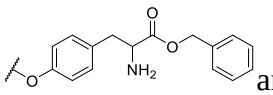
(c) R_1 is  or  and R_2 is –OCH_3 (**12**, **13**);

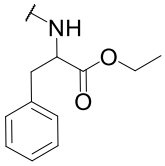
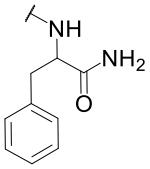
(d) R_1 is  and R_2 is selected from: $–OCH_3$ (**11**) and  (**27**);

(e) R_1 is  and R_2 is $–OCH_3$ (**14**);

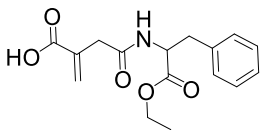
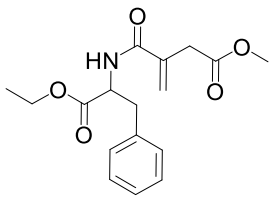
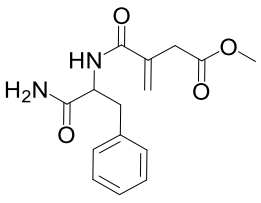
(f) R_1 is  or  and R_2 is $–OCH_3$ (**17**, **19**);

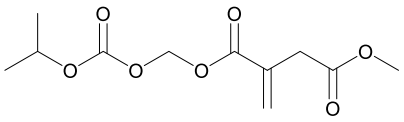
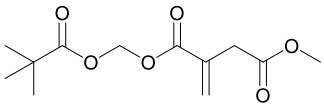
(g) R_1 is  or  and R_2 is $–OCH_3$ (**15**, **16**);

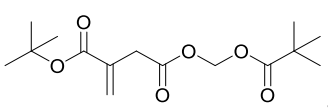
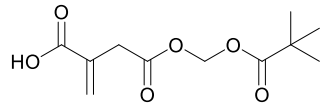
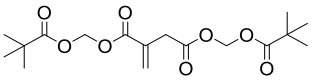
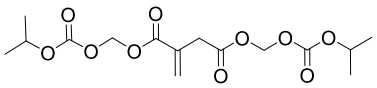
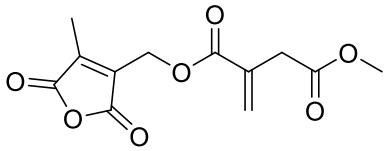
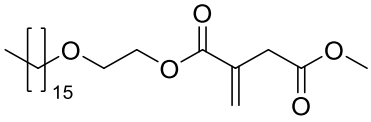
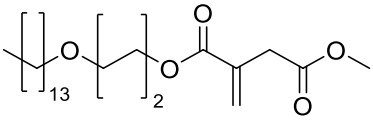
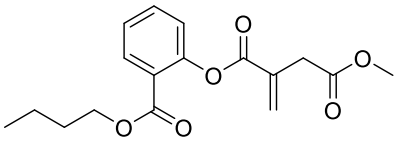
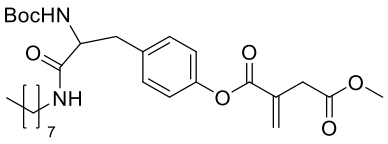
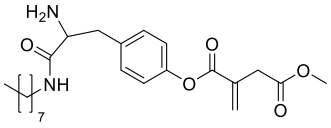
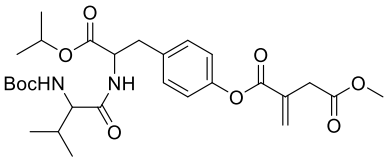
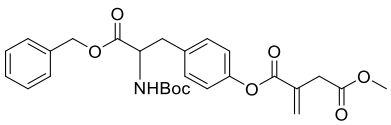
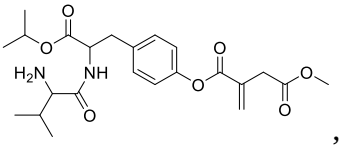
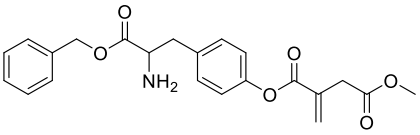
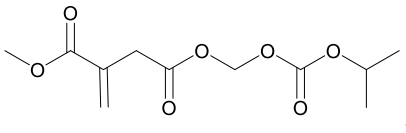
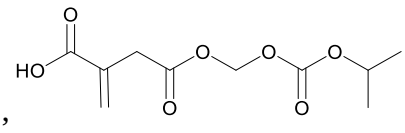
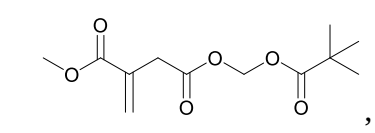
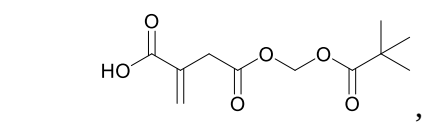
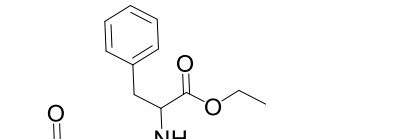
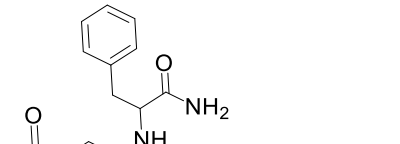
(h) R_1 is  or  and R_2 is $–OCH_3$ (**18**, **20**); and

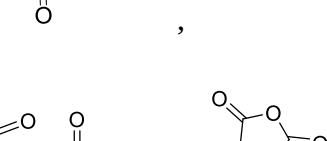
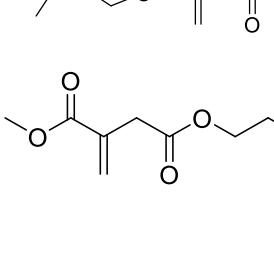
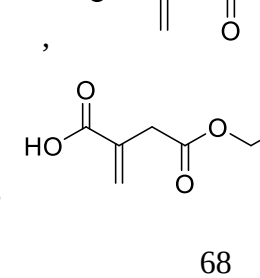
(i) R_1 is  or  and R_2 is $–OCH_3$ (**3**, **4**).

10. The use of any of claims 2-9, wherein the compound of formula (I) is selected from:

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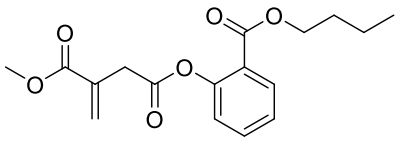
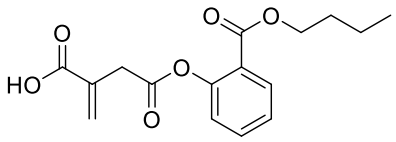
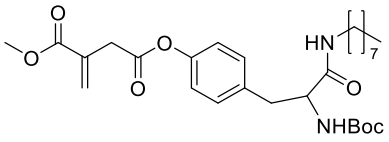
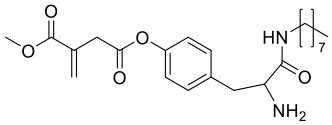
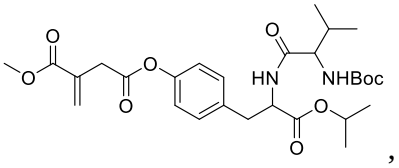
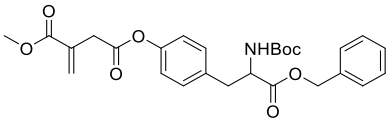
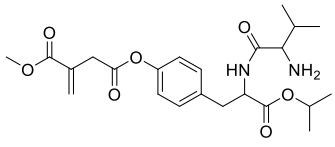
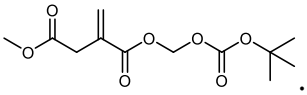
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11. The use of claim 2, further comprising a pharmaceutical composition comprising a compound of formula (I) and a pharmaceutically acceptable excipient.

12. The use of claim 2, wherein the inflammatory skin condition or other condition associated with hair loss comprises alopecia areata.

13. The use of claim 12, wherein the alopecia areata comprises patchy alopecia areata.

14. The use of claim 12, wherein the alopecia areata comprises alopecia totalis.

15. The use of claim 12, wherein the alopecia areata comprises alopecia universalis.

16. The use of claim 2, wherein the use for inducing hair growth induces a transition from a telogen phase to an anagen phase of a hair growth cycle.

17. The use of claim 16, further comprising increasing a number of hair follicles present in the subject in the anagen phase.

18. The use of claim 17, wherein the subject has a decreased number of hair follicles in the anagen phase relative to a control subject prior to administration of a therapeutically effective amount of a compound of formula (I).

19. The use of claim 2, wherein the subject is afflicted with or is at risk of developing alopecia from an underlying health disorder or therapeutic treatment.

20. The use of claim 19, wherein the underlying health disorder is selected from acquired immune deficiency (AID), hypothyroidism, hyperthyroidism, lupus erythematosus, diabetes, anemia, syphilis, zinc deficiency, trichotillomania, Cushing syndrome, systemic lupus erythematosus, infection, discoid lupus erythematosus, lichenplanus, Pseudopelade of Brocq, aplasia cutis congenita, congenital ctrichia, scleroderma, and tinea capitis (ringworm), androgenetic alopecia, alopecia areata, other forms of alopecia, UV radiation, wound healing defects, psoriasis, atopic dermatitis, contact dermatitis, rosacea, acne, and autoimmune/autoinflammatory conditions.

21. The use of claim 19, wherein the underlying health disorder includes a disorder or condition associated with hair loss.

22. The use of claim 21, wherein the disorder or condition associated with hair loss is selected from androgenic alopecia, alopecia areata, anagen effluvium, self-induced hair loss, telogen effluvium, and scarring alopecia.

23. The use of claim 19, wherein the therapeutic treatment comprises chemotherapy or radiation therapy.