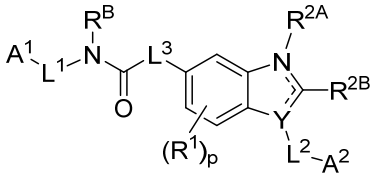
CLAIMS

What is claimed is:

1. A compound of Formula (I):



(I),

or a pharmaceutically acceptable salt or prodrug thereof, wherein:

A^1 is substituted or unsubstituted aryl, substituted or unsubstituted carbocyclyl, substituted or unsubstituted heterocyclyl, or substituted or unsubstituted heteroaryl;

A^2 is substituted or unsubstituted aryl or substituted or unsubstituted heteroaryl;

each of L^1 and L^2 is independently a substituted or unsubstituted alkylene or bond;

L^3 is a bond or substituted or unsubstituted alkylene;

Y is C or N;

each occurrence of R^1 is independently halogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstituted alkynyl, substituted or unsubstituted heteroalkyl, substituted or unsubstituted heteroalkenyl, substituted or unsubstituted heteroalkynyl, substituted or unsubstituted carbocyclyl, substituted or unsubstituted heterocyclyl, substituted or unsubstituted aryl, substituted or unsubstituted heteroaryl, –CN, $–OR^A$, –SCN, $–SR^A$, $–SSR^A$, $–N_3$, –NO, $–N(R^A)_2$, $–NO_2$, $–C(=O)R^A$, $–C(=O)OR^A$, $–C(=O)SR^A$, $–C(=O)N(R^A)_2$, $–C(=NR^A)R^A$, $–C(=NR^A)OR^A$, $–C(=NR^A)SR^A$, $–C(=NR^A)N(R^A)_2$, $–S(=O)R^A$, $–S(=O)OR^A$, $–S(=O)SR^A$, $–S(=O)N(R^A)_2$, $–S(=O)_2R^A$, $–S(=O)_2OR^A$, $–S(=O)_2SR^A$, $–S(=O)_2N(R^A)_2$, $–OC(=O)R^A$, $–OC(=O)OR^A$, $–OC(=O)SR^A$, $–OC(=O)N(R^A)_2$, $–OC(=NR^A)R^A$, $–OC(=NR^A)OR^A$, $–OC(=NR^A)SR^A$, $–OC(=NR^A)N(R^A)_2$, $–OS(=O)R^A$, $–OS(=O)OR^A$, $–OS(=O)SR^A$, $–OS(=O)N(R^A)_2$, $–OS(=O)_2R^A$, $–OS(=O)_2OR^A$, $–OS(=O)_2SR^A$, $–OS(=O)_2N(R^A)_2$, $–ON(R^A)_2$, $–SC(=O)R^A$, $–SC(=O)OR^A$, $–SC(=O)SR^A$, $–SC(=O)N(R^A)_2$, $–SC(=NR^A)R^A$, $–SC(=NR^A)OR^A$, $–SC(=NR^A)SR^A$, $–SC(=NR^A)N(R^A)_2$, $–NR^AC(=O)R^A$, $–NR^AC(=O)OR^A$, $–NR^AC(=O)SR^A$, $–NR^AC(=O)N(R^A)_2$, $–NR^AC(=NR^A)R^A$, $–NR^AC(=NR^A)OR^A$, $–NR^AC(=NR^A)SR^A$, $–NR^AC(=NR^A)N(R^A)_2$, $–NR^AS(=O)R^A$, $–NR^AS(=O)OR^A$, $–NR^AS(=O)SR^A$, $–NR^AS(=O)N(R^A)_2$, $–NR^AS(=O)_2R^A$, $–NR^AS(=O)_2OR^A$, $–NR^AS(=O)_2SR^A$, $–NR^AS(=O)_2N(R^A)_2$, $–Si(R^A)_3$, $–Si(R^A)_2OR^A$, $–Si(R^A)(OR^A)_2$, $–Si(OR^A)_3$, $–OSi(R^A)_3$, $–OSi(R^A)_2OR^A$, $–OSi(R^A)(OR^A)_2$, $–OSi(OR^A)_3$, or $–B(OR^A)_2$;

R^{2A} is substituted or unsubstituted alkyl, absent, hydrogen, or a nitrogen protecting group, provided that when Y is N, R^{2A} is absent;

R^{2B} is substituted or unsubstituted alkyl, hydrogen, halogen, substituted or unsubstituted alkenyl, substituted or unsubstituted alkynyl, substituted or unsubstituted heteroalkyl, substituted or unsubstituted heteroalkenyl, substituted or unsubstituted heteroalkynyl, substituted or unsubstituted

carbocyclyl, substituted or unsubstituted heterocyclyl, substituted or unsubstituted aryl, substituted or unsubstituted heteroaryl, –CN, –OR^A, –SCN, –SR^A, –SSR^A, –N_3, –NO, –$N(R^A)_2$, –NO_2, –$C(=O)R^A$, –$C(=O)OR^A$, –$C(=O)SR^A$, –$C(=O)N(R^A)_2$, –$C(=NR^A)R^A$, –$C(=NR^A)OR^A$, –$C(=NR^A)SR^A$, –$C(=NR^A)N(R^A)_2$, –$S(=O)R^A$, –$S(=O)OR^A$, –$S(=O)SR^A$, –$S(=O)N(R^A)_2$, –$S(=O)_2R^A$, –$S(=O)_2OR^A$, –$S(=O)_2SR^A$, –$S(=O)_2N(R^A)_2$, –$OC(=O)R^A$, –$OC(=O)OR^A$, –$OC(=O)SR^A$, –$OC(=O)N(R^A)_2$, –$OC(=NR^A)R^A$, –$OC(=NR^A)OR^A$, –$OC(=NR^A)SR^A$, –$OC(=NR^A)N(R^A)_2$, –$OS(=O)R^A$, –$OS(=O)OR^A$, –$OS(=O)SR^A$, –$OS(=O)N(R^A)_2$, –$OS(=O)_2R^A$, –$OS(=O)_2OR^A$, –$OS(=O)_2SR^A$, –$OS(=O)_2N(R^A)_2$, –$ON(R^A)_2$, –$SC(=O)R^A$, –$SC(=O)OR^A$, –$SC(=O)SR^A$, –$SC(=O)N(R^A)_2$, –$SC(=NR^A)R^A$, –$SC(=NR^A)OR^A$, –$SC(=NR^A)SR^A$, –$SC(=NR^A)N(R^A)_2$, –$NR^AC(=O)R^A$, –$NR^AC(=O)OR^A$, –$NR^AC(=O)SR^A$, –$NR^AC(=O)N(R^A)_2$, –$NR^AC(=NR^A)R^A$, –$NR^AC(=NR^A)OR^A$, –$NR^AC(=NR^A)SR^A$, –$NR^AC(=NR^A)N(R^A)_2$, –$NR^AS(=O)R^A$, –$NR^AS(=O)OR^A$, –$NR^AS(=O)SR^A$, –$NR^AS(=O)N(R^A)_2$, –$NR^AS(=O)_2R^A$, –$NR^AS(=O)_2OR^A$, –$NR^AS(=O)_2SR^A$, –$NR^AS(=O)_2N(R^A)_2$, –$Si(R^A)_3$, –$Si(R^A)_2OR^A$, –$Si(R^A)(OR^A)_2$, –$Si(OR^A)_3$, –$OSi(R^A)_3$, –$OSi(R^A)_2OR^A$, –$OSi(R^A)(OR^A)_2$, –$OSi(OR^A)_3$, or –$B(OR^A)_2$;

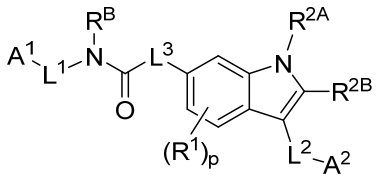
each occurrence of R^A is independently hydrogen, substituted or unsubstituted acyl, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstituted alkynyl, substituted or unsubstituted heteroalkyl, substituted or unsubstituted heteroalkenyl, substituted or unsubstituted heteroalkynyl, substituted or unsubstituted carbocyclyl, substituted or unsubstituted heterocyclyl, substituted or unsubstituted aryl, substituted or unsubstituted heteroaryl, a nitrogen protecting group when attached to a nitrogen atom, an oxygen protecting group when attached to an oxygen atom, or a sulfur protecting group when attached to a sulfur atom, or two occurrences of R^A are joined together with their intervening atom(s) to form an substituted or unsubstituted heterocyclic ring or substituted or unsubstituted heteroaryl ring;

R^B is hydrogen, substituted or unsubstituted alkyl, substituted or unsubstituted acyl, or a nitrogen protecting group; and

p is 0, 1, 2, or 3.

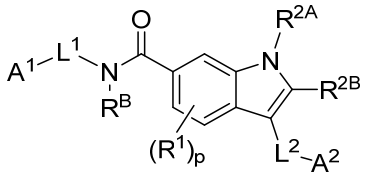
2. The compound of claim 1, or a pharmaceutically acceptable salt or prodrug thereof, wherein:

(a) the compound is of Formula (I-a):



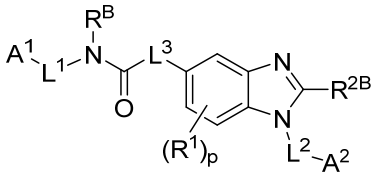
(I-a); or

(b) the compound is of Formula (I-b):



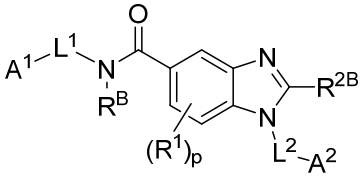
(I-b); or

(c) the compound is of Formula (I-c):



(I-c); or

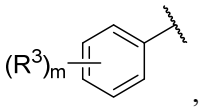
(d) the compound is of Formula (I-d):



(I-d).

3. The compound of claim 1 or 2, or a pharmaceutically acceptable salt or prodrug thereof, wherein A^1 is substituted or unsubstituted aryl or substituted or unsubstituted heteroaryl; optionally wherein A^1 is substituted or unsubstituted aryl; optionally wherein A^1 is substituted or unsubstituted phenyl.

4. The compound of any one of claims 1-3, or a pharmaceutically acceptable salt or prodrug thereof, wherein A^1 is of formula:



,

wherein:

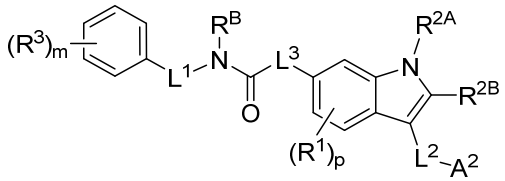
each occurrence of R^3 is independently halogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstituted alkynyl, substituted or unsubstituted heteroalkyl, substituted or unsubstituted heteroalkenyl, substituted or unsubstituted heteroalkynyl, substituted or unsubstituted carbocyclyl, substituted or unsubstituted heterocyclyl, substituted or unsubstituted aryl, substituted or unsubstituted heteroaryl, –CN, $–OR^A$, –SCN, $–SR^A$, $–SSR^A$, $–N_3$, –NO, $–N(R^A)_2$, $–NO_2$, $–C(=O)R^A$, $–C(=O)OR^A$, $–C(=O)SR^A$, $–C(=O)N(R^A)_2$, $–C(=NR^A)R^A$, $–C(=NR^A)OR^A$, $–C(=NR^A)SR^A$, $–C(=NR^A)N(R^A)_2$, $–S(=O)R^A$, $–S(=O)OR^A$, $–S(=O)SR^A$, $–S(=O)N(R^A)_2$, $–S(=O)_2R^A$, $–S(=O)_2OR^A$, $–S(=O)_2SR^A$, $–S(=O)_2N(R^A)_2$, $–OC(=O)R^A$, $–OC(=O)OR^A$, $–OC(=O)SR^A$, $–OC(=O)N(R^A)_2$, $–OC(=NR^A)R^A$, $–OC(=NR^A)OR^A$, $–OC(=NR^A)SR^A$, $–OC(=NR^A)N(R^A)_2$, $–OS(=O)R^A$, $–OS(=O)OR^A$, $–OS(=O)SR^A$, $–OS(=O)N(R^A)_2$, $–OS(=O)_2R^A$, $–OS(=O)_2OR^A$, $–OS(=O)_2SR^A$, $–OS(=O)_2N(R^A)_2$, $–ON(R^A)_2$, $–SC(=O)R^A$, $–SC(=O)OR^A$, $–SC(=O)SR^A$, $–SC(=O)N(R^A)_2$, $–SC(=NR^A)R^A$, $–SC(=NR^A)OR^A$, $–SC(=NR^A)SR^A$, $–SC(=NR^A)N(R^A)_2$, $–NR^AC(=O)R^A$, $–NR^AC(=O)OR^A$, –

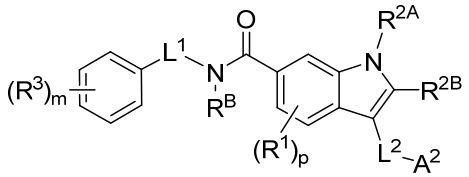
$NR^AC(=O)SR^A$, $–NR^AC(=O)N(R^A)_2$, $–NR^AC(=NR^A)R^A$, $–NR^AC(=NR^A)OR^A$, $–NR^AC(=NR^A)SR^A$, $–NR^AC(=NR^A)N(R^A)_2$, $–NR^AS(=O)R^A$, $–NR^AS(=O)OR^A$, $–NR^AS(=O)SR^A$, $–NR^AS(=O)N(R^A)_2$, $–NR^AS(=O)_2R^A$, $–NR^AS(=O)_2OR^A$, $–NR^AS(=O)_2SR^A$, $–NR^AS(=O)_2N(R^A)_2$, $–Si(R^A)_3$, $–Si(R^A)_2OR^A$, $–Si(R^A)(OR^A)_2$, $–Si(OR^A)_3$, $–OSi(R^A)_3$, $–OSi(R^A)_2OR^A$, $–OSi(R^A)(OR^A)_2$, $–OSi(OR^A)_3$, or $–B(OR^A)_2$; and

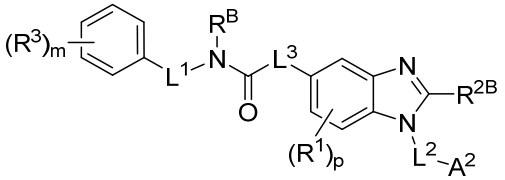
m is 0, 1, 2, 3, 4, or 5; optionally

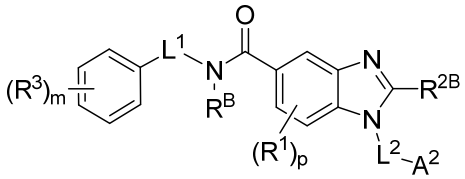
wherein:

(a) the compound is of Formula (I-a-i), Formula (I-b-i), Formula (I-c-i) or Formula (I-d-i):

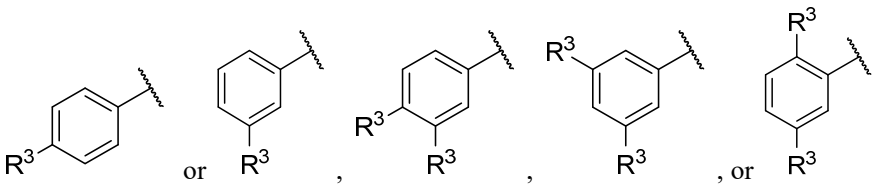

(I-a-i)


(I-b-i)


(I-c-i)


(I-d-i) ; and/or

(b) A^1 is of formula:


; and/or

(c) each occurrence of R^3 is independently halogen, substituted or unsubstituted alkyl, substituted or unsubstituted cycloalkyl, –CN, or $–OR^A$; and/or

(d) wherein at least one occurrence of R^3 is $C_{1\text{-}6}$ alkyl; and/or

(e) wherein at least one occurrence of R^3 is methyl, trifluoromethyl, ethyl, isopropyl, or *tert*-butyl; and/or

(f) wherein at least one occurrence of R^3 is C_{1-6} cycloalkyl; optionally

wherein at least one occurrence of R^3 is cyclopropyl; and/or

(g) wherein at least one occurrence of R^3 is –F, –Cl, –Br, –OMe, $–OCF_3$, or –CN.

5. The compound of any one of claims 1-4, or a pharmaceutically acceptable salt or prodrug thereof, wherein:

(a) R^{2A} is absent; or

R^{2A} is substituted or unsubstituted alkyl; optionally

wherein R^{2A} is substituted or unsubstituted C_{1-6} alkyl; optionally

wherein R^{2A} is methyl, ethyl, isopropyl, 2-methylpropyl, 2,2-dimethylpropyl, cyclopropylmethyl, or cyclobutylmethyl; and/or

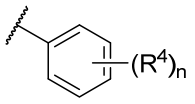
(b) R^{2B} is substituted or unsubstituted alkyl; optionally

wherein R^{2B} is substituted or unsubstituted C_{1-6} alkyl; optionally

wherein R^{2B} is methyl.

6. The compound of any one of claims 1-5, or a pharmaceutically acceptable salt or prodrug thereof, wherein A^2 is substituted or unsubstituted aryl; optionally wherein A^2 is substituted or unsubstituted phenyl.

7. The compound of any one of claims 1-6, or a pharmaceutically acceptable salt or prodrug thereof, wherein A^2 is of formula:



,

wherein:

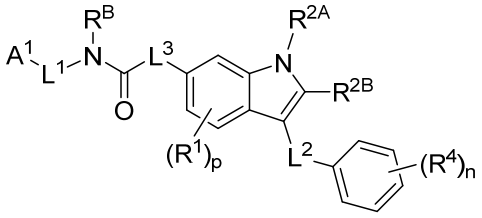
each occurrence of R^4 is independently halogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstituted alkynyl, substituted or unsubstituted heteroalkyl, substituted or unsubstituted heteroalkenyl, substituted or unsubstituted heteroalkynyl, substituted or unsubstituted carbocyclyl, substituted or unsubstituted heterocyclyl, substituted or unsubstituted aryl, substituted or unsubstituted heteroaryl, –CN, $–OR^A$, –SCN, $–SR^A$, $–SSR^A$, $–N_3$, –NO, $–N(R^A)_2$, $–NO_2$, $–C(=O)R^A$, $–C(=O)OR^A$, $–C(=O)SR^A$, $–C(=O)N(R^A)_2$, $–C(=NR^A)R^A$, $–C(=NR^A)OR^A$, $–C(=NR^A)SR^A$, $–C(=NR^A)N(R^A)_2$, $–S(=O)R^A$, $–S(=O)OR^A$, $–S(=O)SR^A$, $–S(=O)N(R^A)_2$, $–S(=O)_2R^A$, $–S(=O)_2OR^A$, $–S(=O)_2SR^A$, $–S(=O)_2N(R^A)_2$, $–OC(=O)R^A$, $–OC(=O)OR^A$, $–OC(=O)SR^A$, $–OC(=O)N(R^A)_2$, $–OC(=NR^A)R^A$, $–OC(=NR^A)OR^A$, $–OC(=NR^A)SR^A$, $–OC(=NR^A)N(R^A)_2$, $–OS(=O)R^A$, $–OS(=O)OR^A$, $–OS(=O)SR^A$, $–OS(=O)N(R^A)_2$, $–OS(=O)_2R^A$, $–OS(=O)_2OR^A$, $–OS(=O)_2SR^A$, $–OS(=O)_2N(R^A)_2$, $–ON(R^A)_2$, $–SC(=O)R^A$, $–SC(=O)OR^A$, $–SC(=O)SR^A$, $–SC(=O)N(R^A)_2$, $–SC(=NR^A)R^A$, $–SC(=NR^A)OR^A$, $–SC(=NR^A)SR^A$, $–SC(=NR^A)N(R^A)_2$, $–NR^AC(=O)R^A$, $–NR^AC(=O)OR^A$, –

$NR^AC(=O)SR^A$, $–NR^AC(=O)N(R^A)_2$, $–NR^AC(=NR^A)R^A$, $–NR^AC(=NR^A)OR^A$, $–NR^AC(=NR^A)SR^A$, $–NR^AC(=NR^A)N(R^A)_2$, $–NR^AS(=O)R^A$, $–NR^AS(=O)OR^A$, $–NR^AS(=O)SR^A$, $–NR^AS(=O)N(R^A)_2$, $–NR^AS(=O)_2R^A$, $–NR^AS(=O)_2OR^A$, $–NR^AS(=O)_2SR^A$, $–NR^AS(=O)_2N(R^A)_2$, $–Si(R^A)_3$, $–Si(R^A)_2OR^A$, $–Si(R^A)(OR^A)_2$, $–Si(OR^A)_3$, $–OSi(R^A)_3$, $–OSi(R^A)_2OR^A$, $–OSi(R^A)(OR^A)_2$, $–OSi(OR^A)_3$, or $–B(OR^A)_2$; and

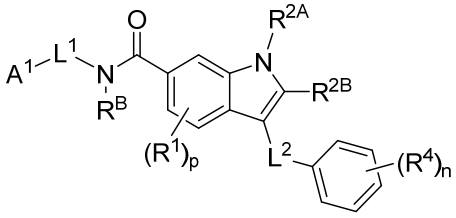
n is 0, 1, 2, 3, 4, or 5; optionally

wherein:

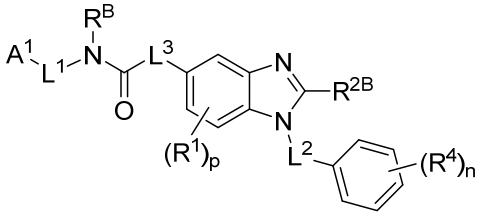
(a) the compound is of Formula (I-a-ii), Formula (I-b-ii), Formula (I-c-ii), Formula (I-d-ii), Formula (I-a-iii), Formula (I-b-iii), Formula (I-c-iii), Formula (I-d-iii):



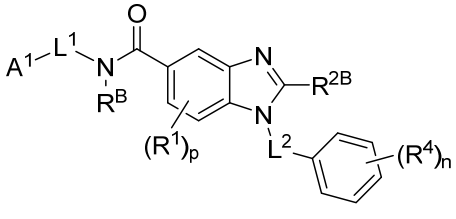
(I-a-ii)



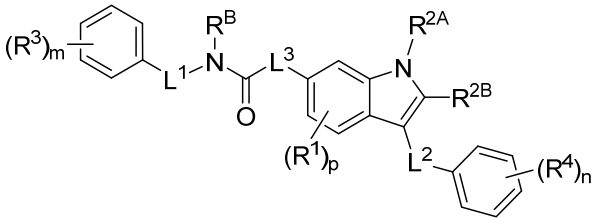
(I-b-ii)



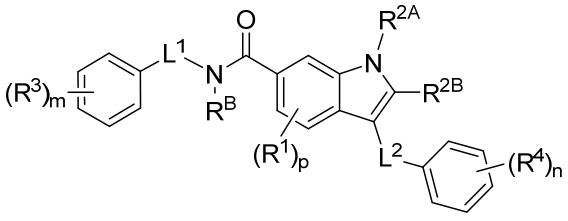
(I-c-ii)



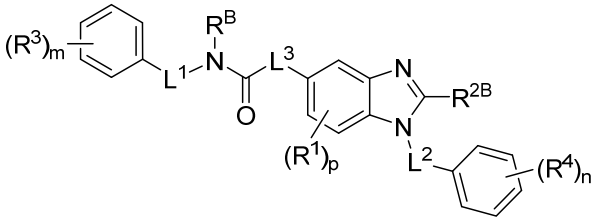
(I-d-ii)



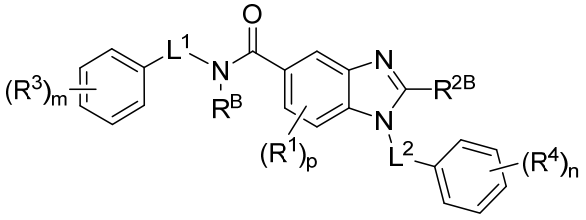
(I-a-iii)



(I-b-iii)

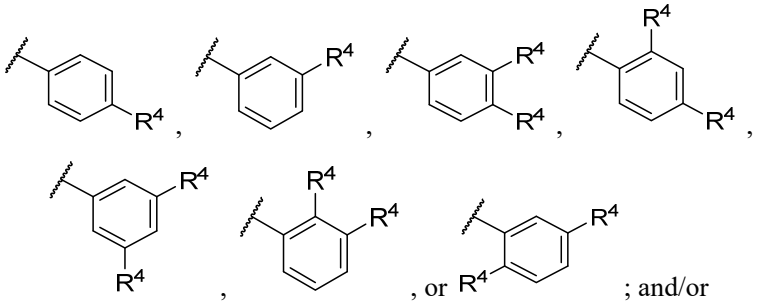


(I-c-iii)



(I-d-iii); and/or

(b) A^2 is of formula:

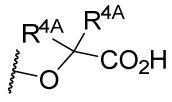


; and/or

(c) each occurrence of R^4 is independently halogen, substituted or unsubstituted alkyl, or $–OR^A$; and/or

(d) at least one occurrence of R^4 is $–OR^A$; and/or

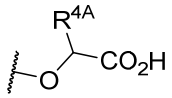
(e) at least one occurrence of R^4 is of formula:



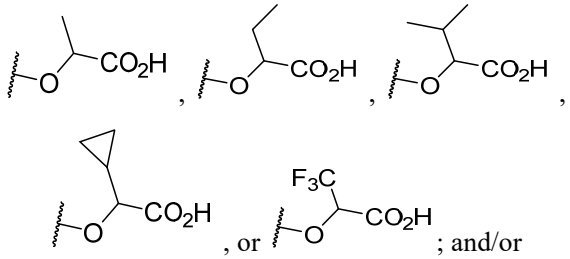
,

wherein each occurrence of R^{4A} is independently hydrogen, substituted or unsubstituted alkyl, or substituted or unsubstituted cycloalkyl, optionally wherein at least one occurrence of R^{4A} is methyl, ethyl, isopropyl, trifluoromethyl, or cyclopropyl; and/or

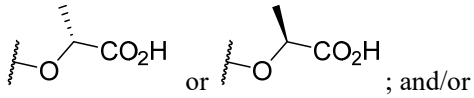
(f) at least one occurrence of R^4 is of formula:


, optionally wherein R^{4A} is hydrogen, substituted or unsubstituted alkyl, or substituted or unsubstituted cycloalkyl, optionally wherein R^{4A} is methyl, ethyl, isopropyl, trifluoromethyl, or cyclopropyl.; and/or

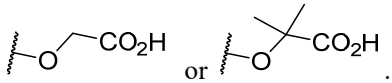
(g) at least one occurrence of R^4 is of formula:


; and/or

(h) at least one occurrence of R^4 is of formula:


; and/or

(i) at least one occurrence of R^4 is of formula:


.

8. The compound of any one of claims 1-7, or a pharmaceutically acceptable salt or prodrug thereof, wherein:

(a) L^1 is substituted or unsubstituted alkylene; optionally

wherein L^1 is substituted or unsubstituted C_{1-6} alkylene; optionally

wherein L^1 is $–CH(CH_3)–$ or $–CH(CF_3)–$; and/or

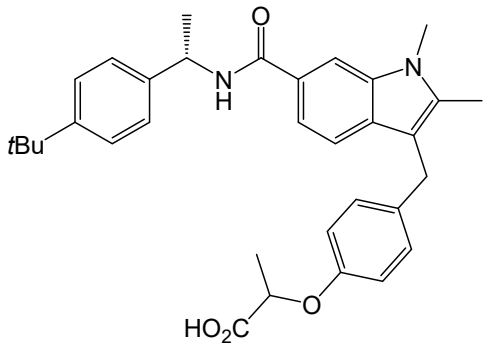
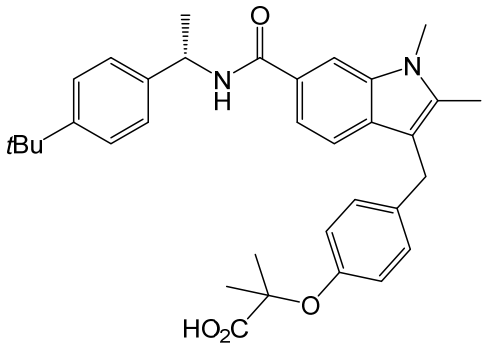
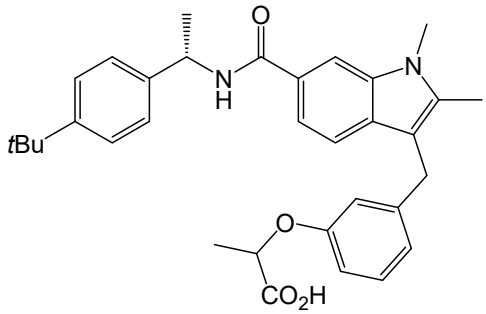
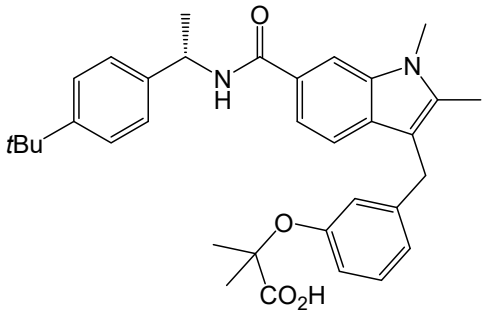
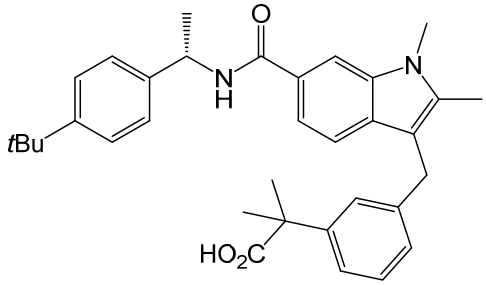
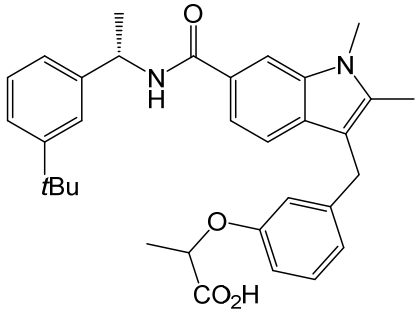
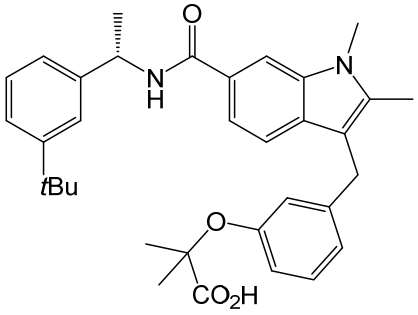
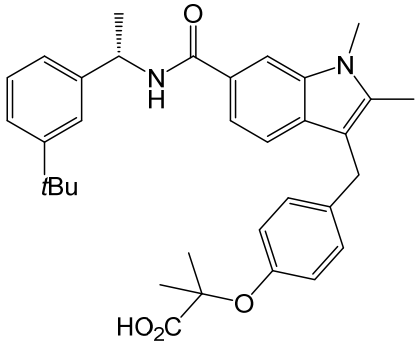
(b) L^2 is substituted or unsubstituted alkylene; optionally

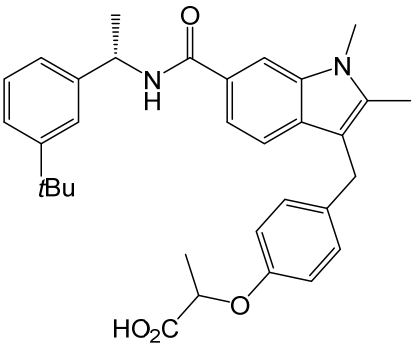
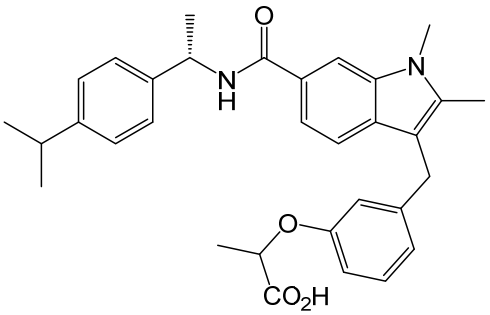
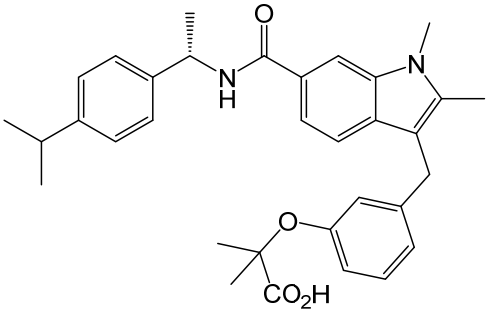
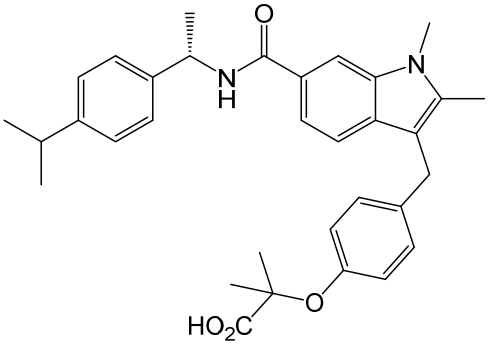
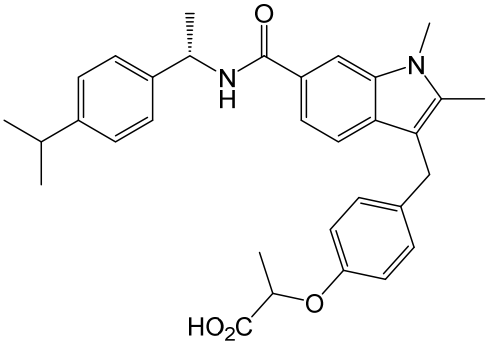
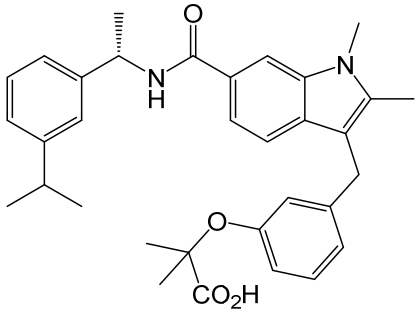
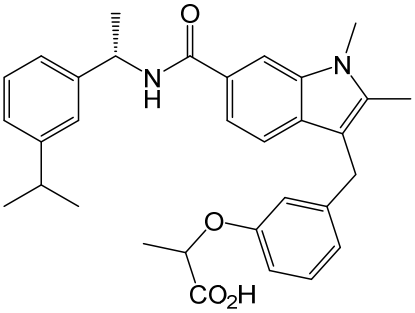
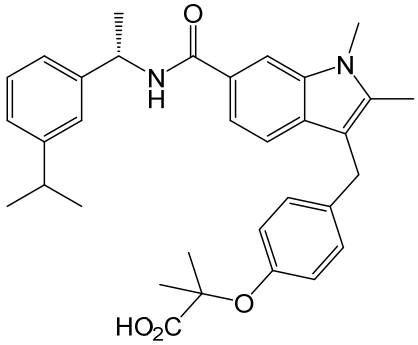
wherein L^2 is substituted or unsubstituted C_{1-6} alkylene; optionally

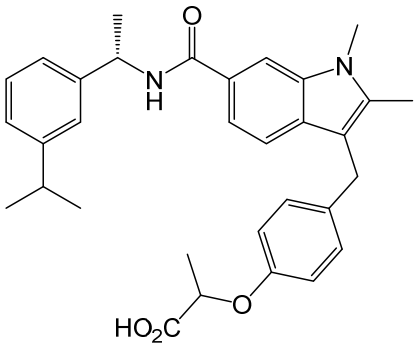
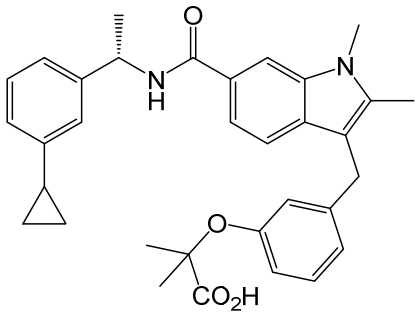
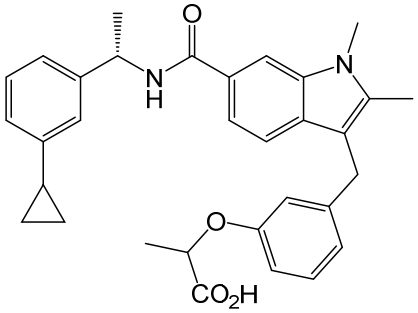
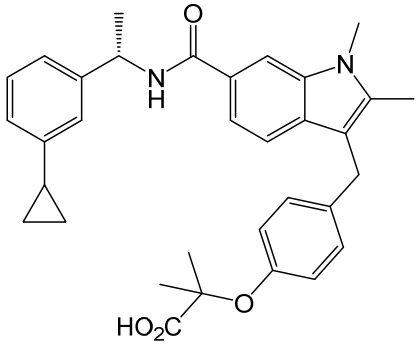
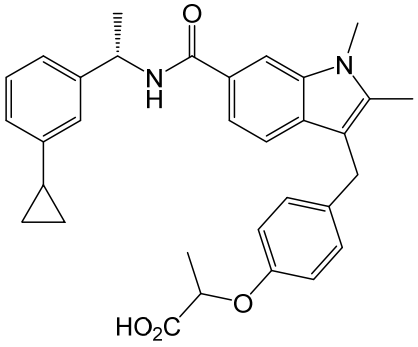
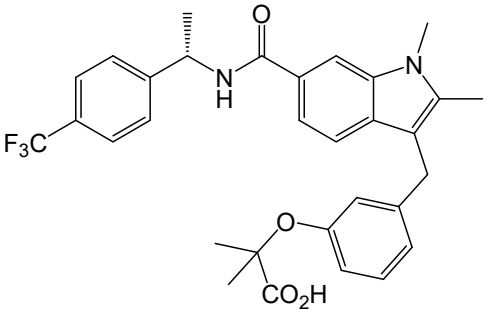
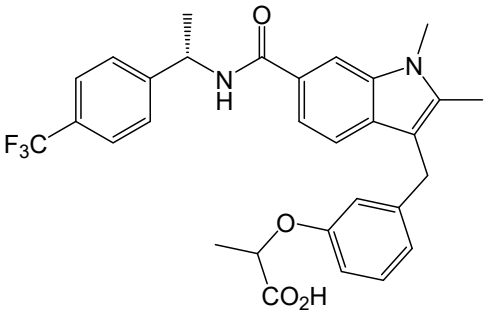
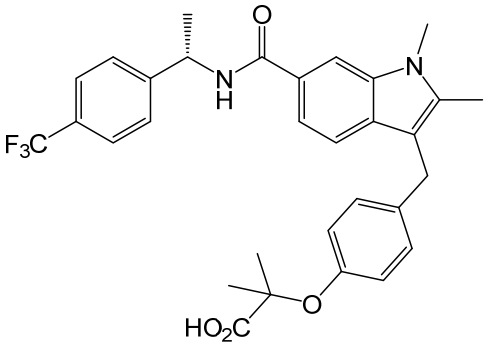
wherein L^2 is substituted or unsubstituted methylene; and/or

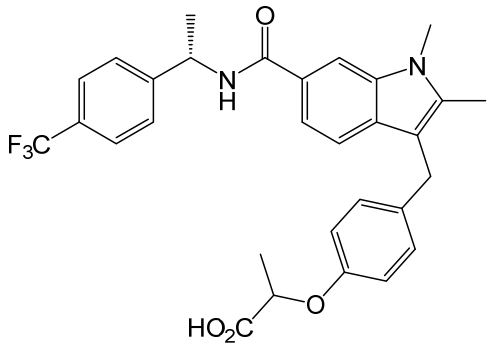
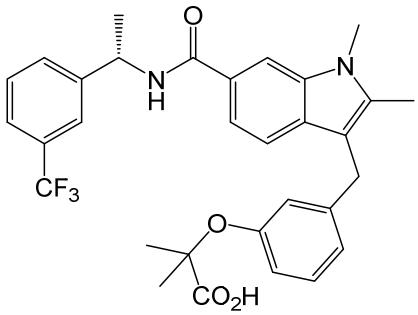
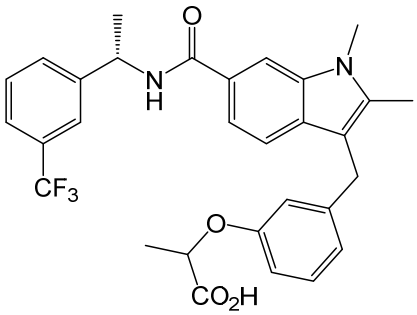
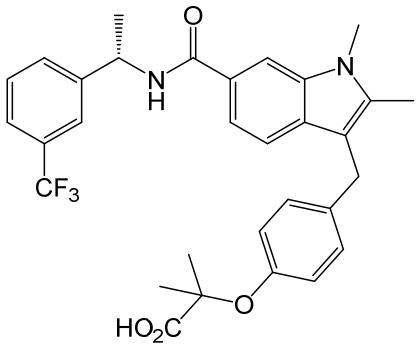
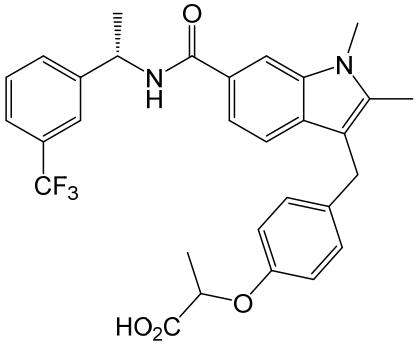
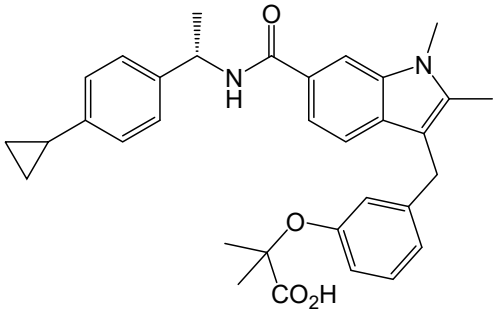
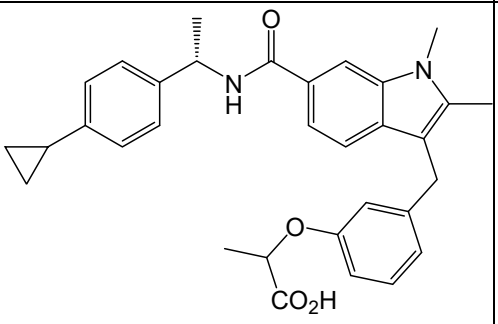
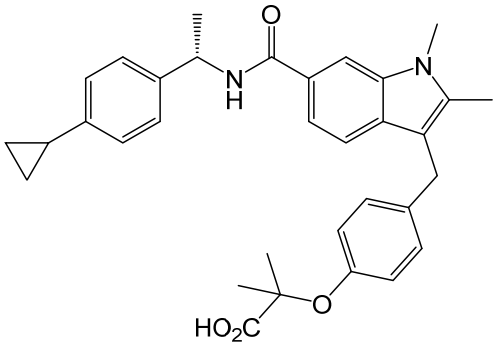
(c) L^3 is a bond.

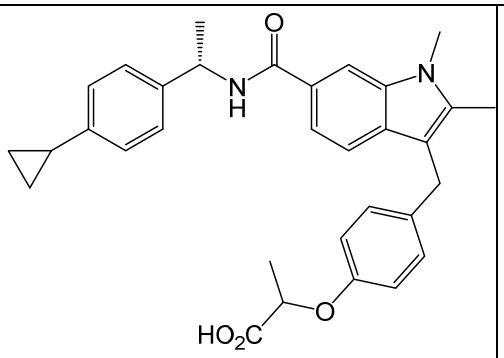
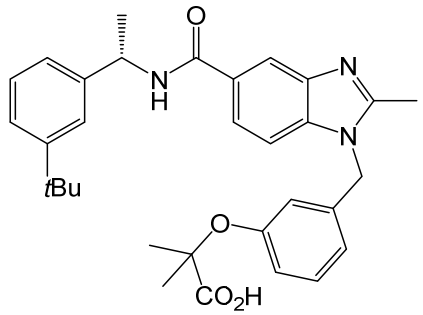
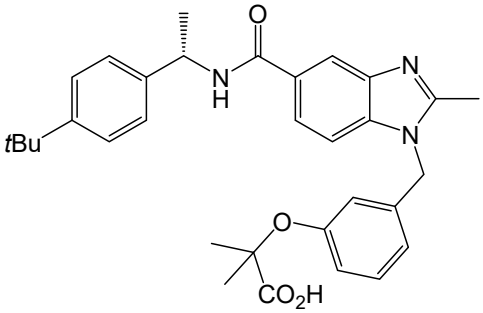
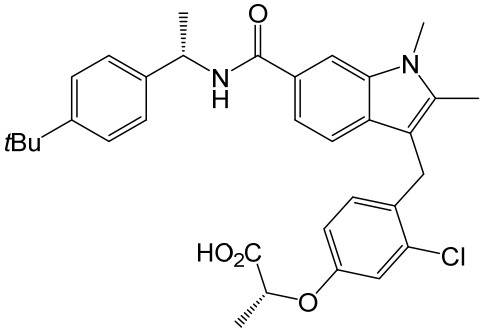
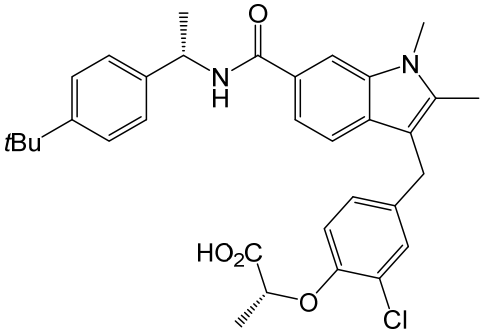
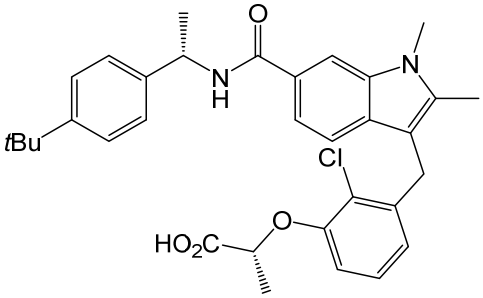
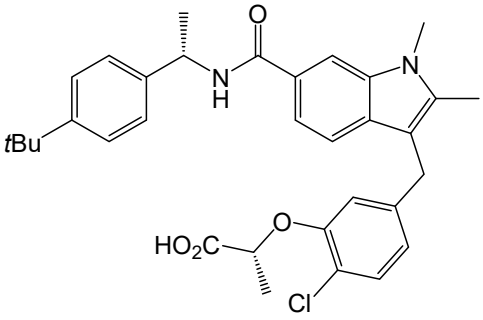
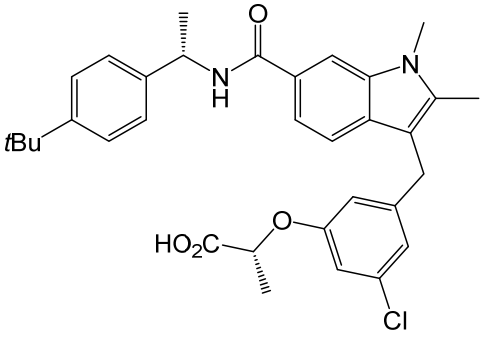
9. The compound of any one of claims 1-8, wherein the compound is of formula:

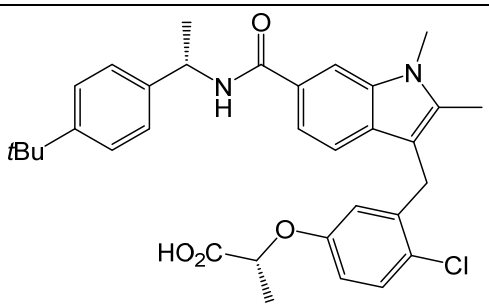
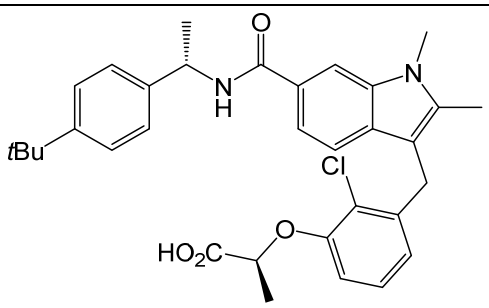
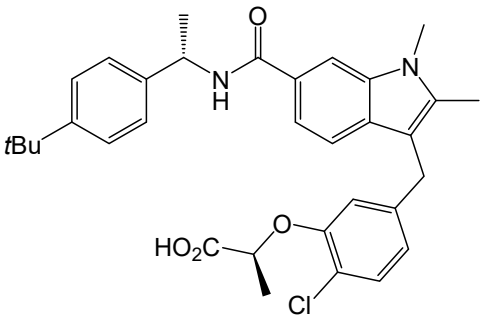
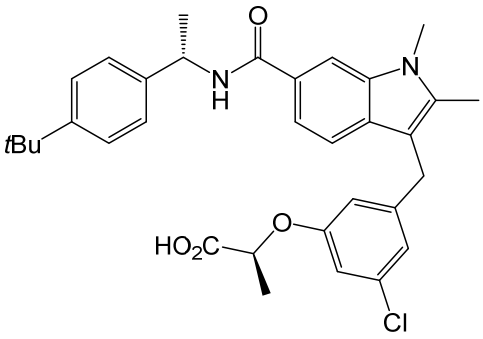
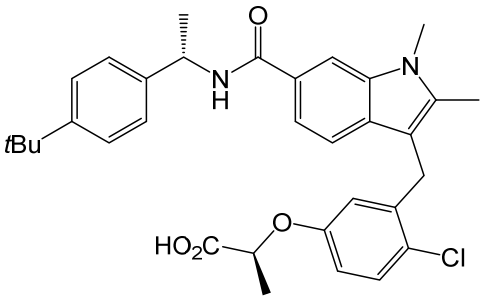
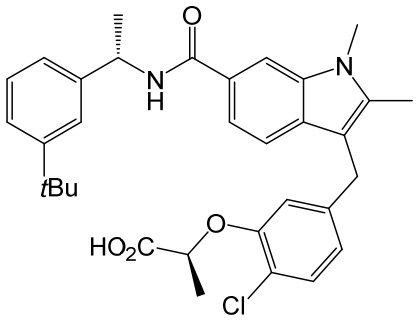
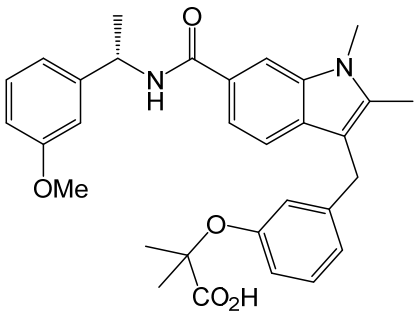
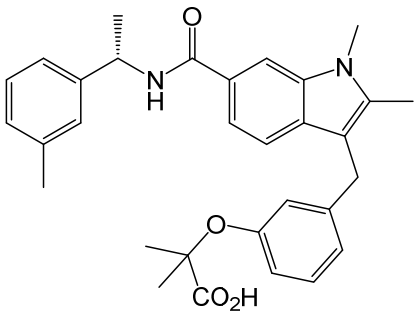
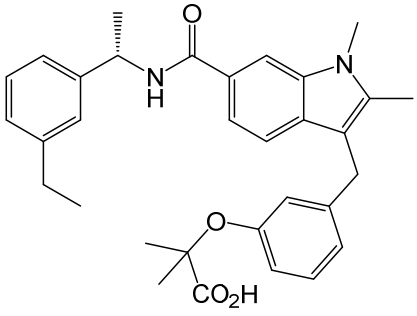
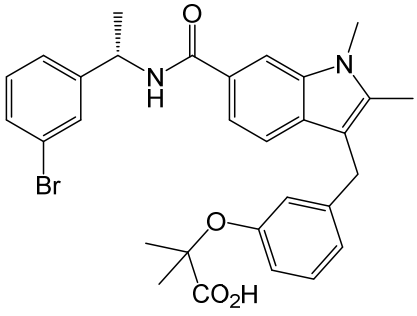
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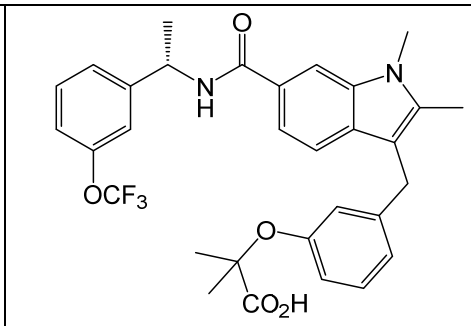
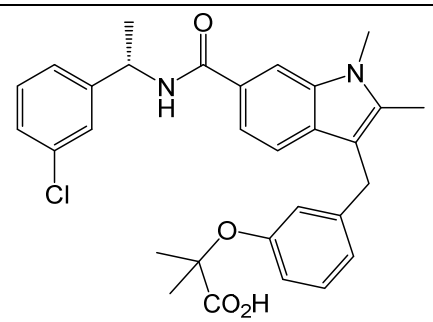
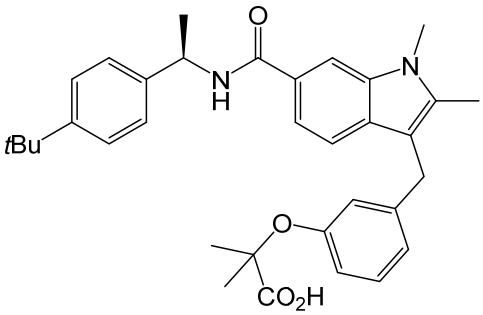
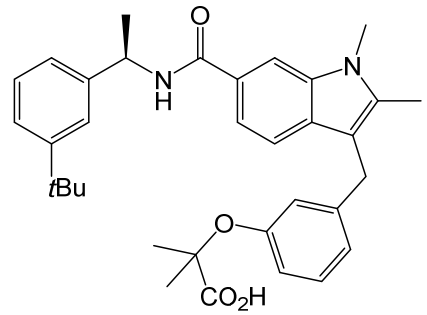
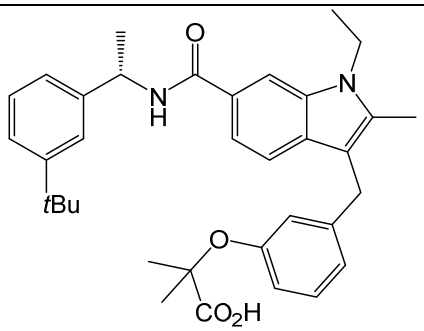
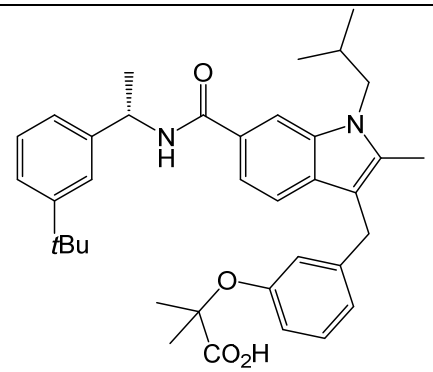
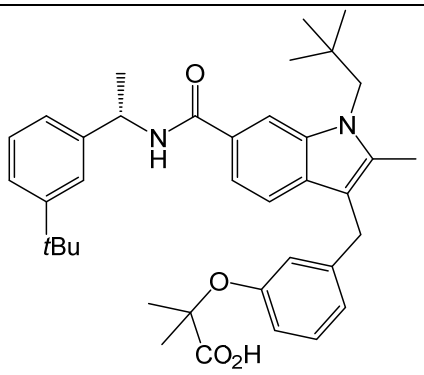
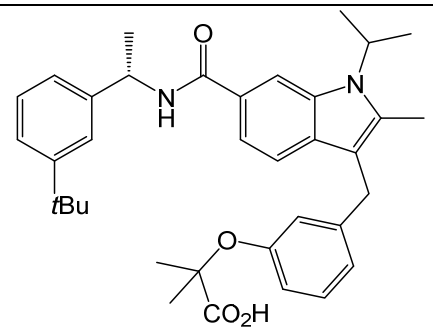
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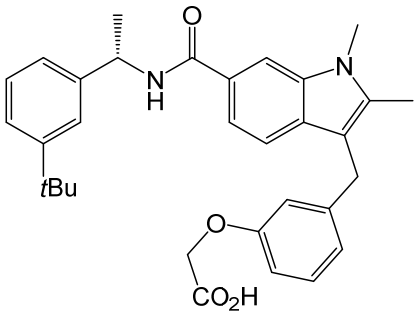
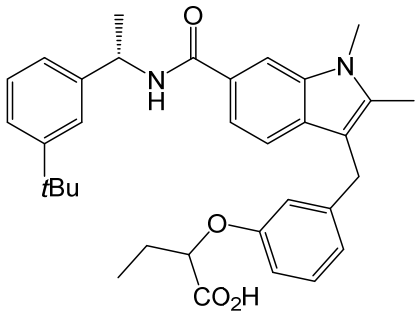
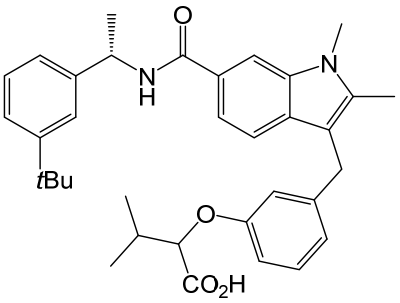
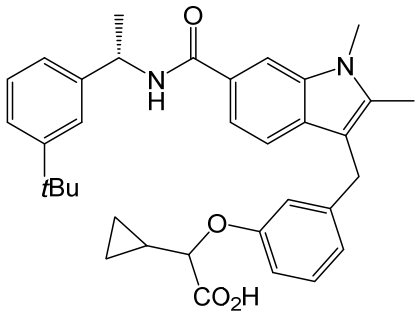
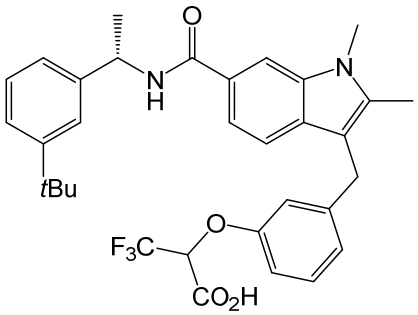
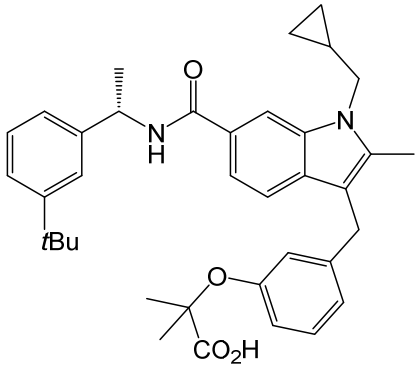
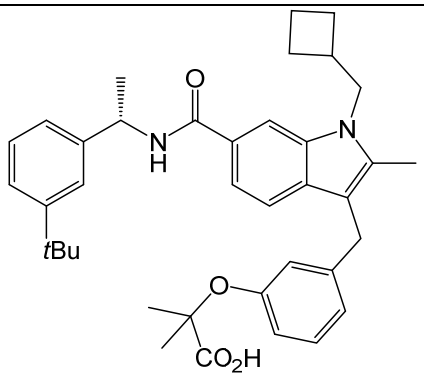
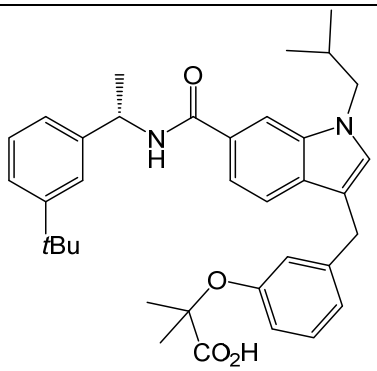
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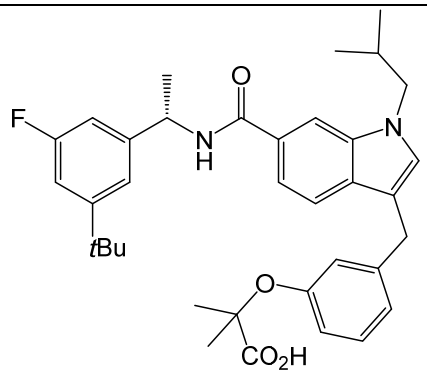
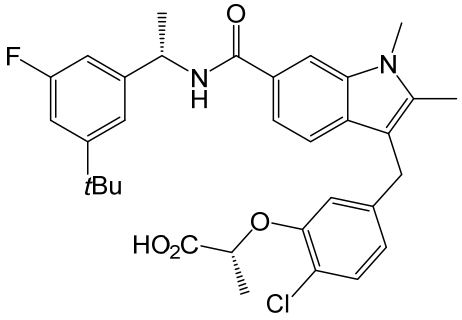
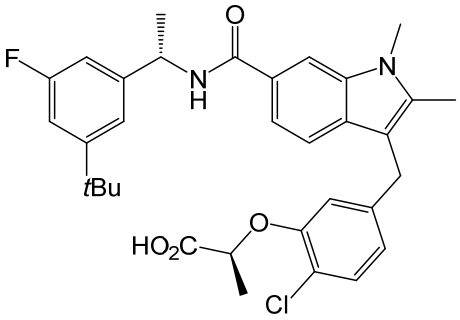
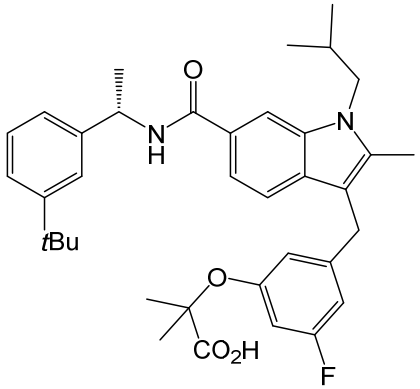
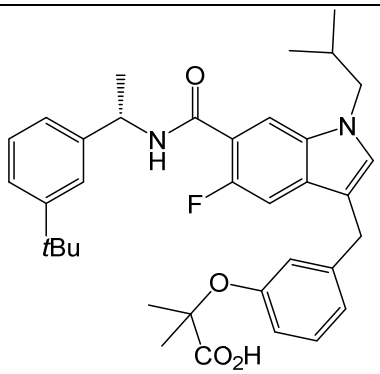
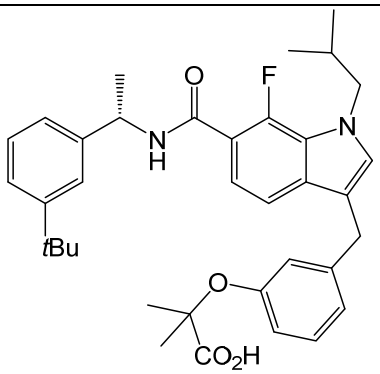
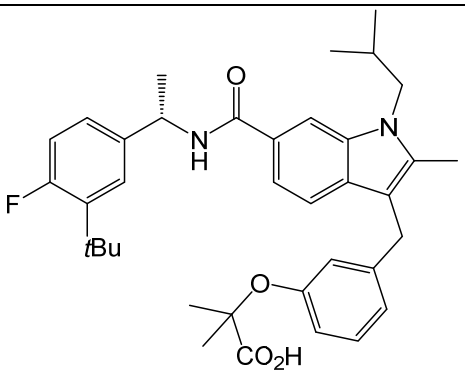
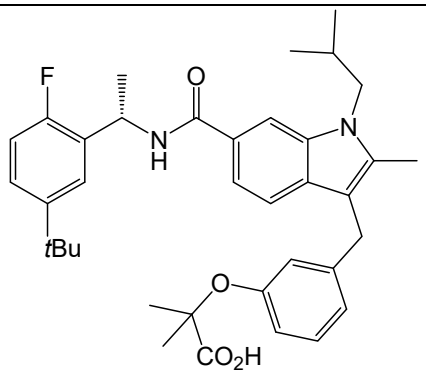
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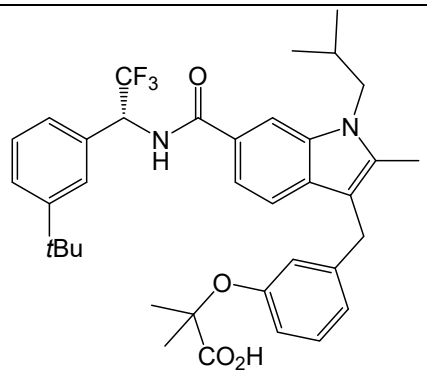
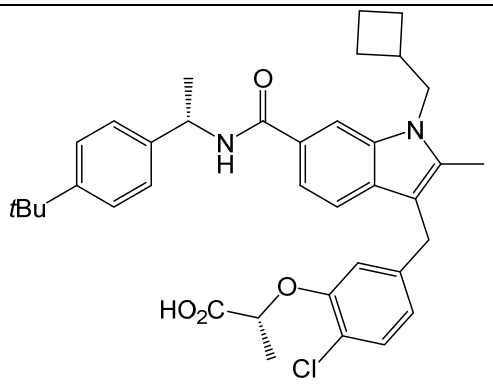
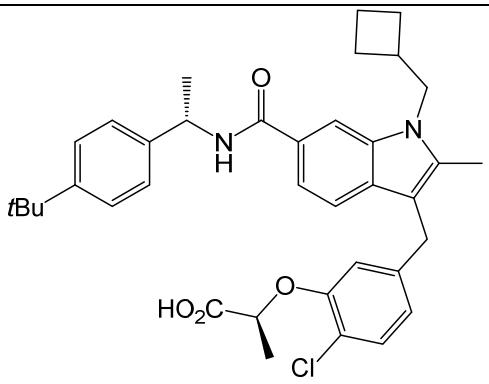
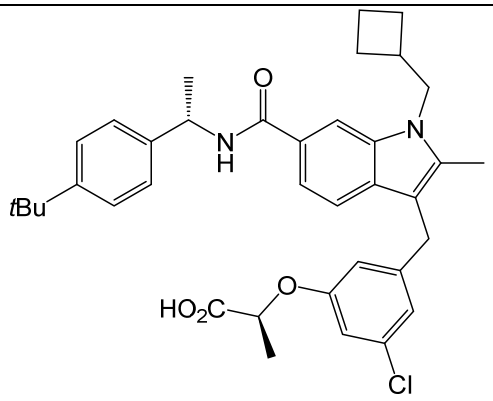
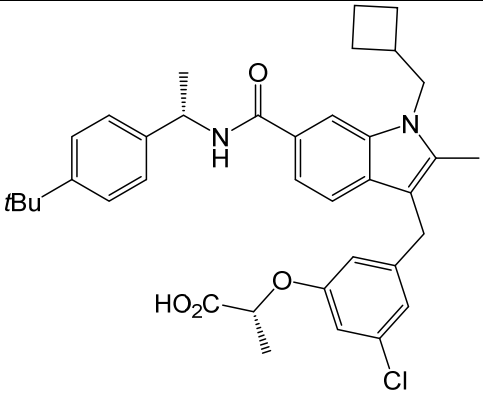
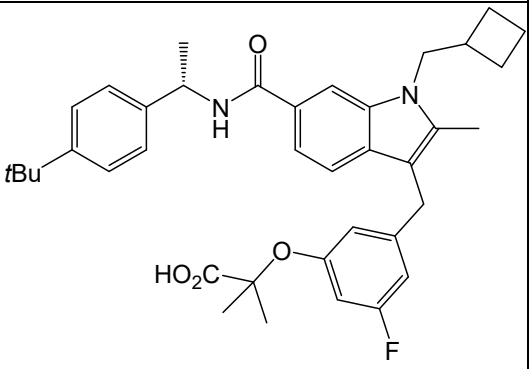
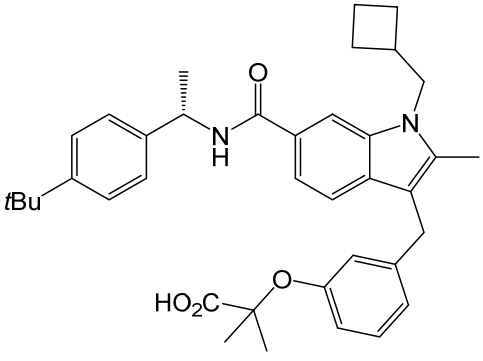
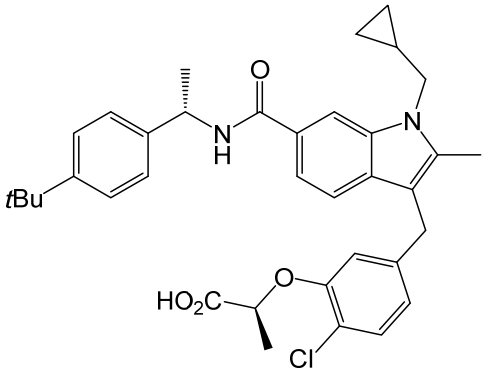
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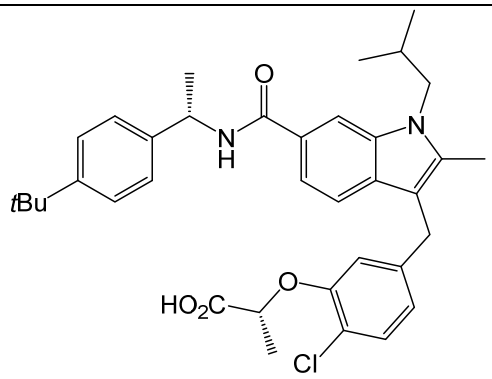
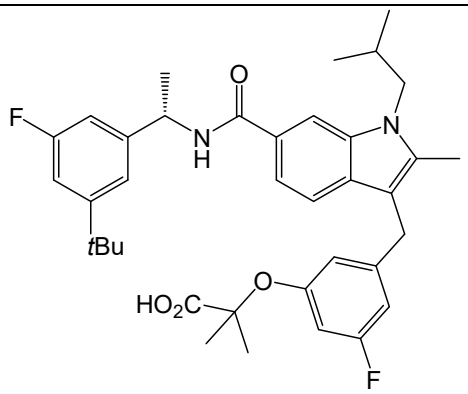
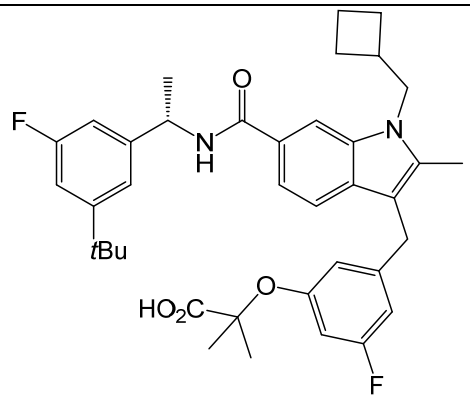
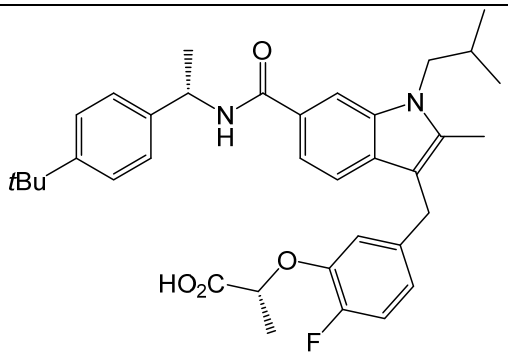
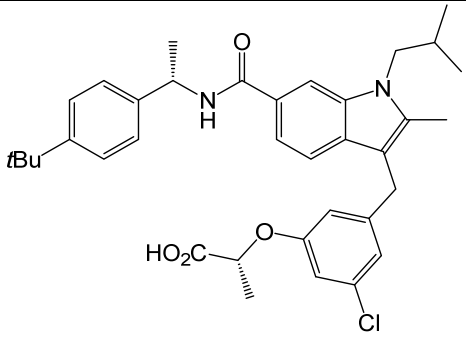
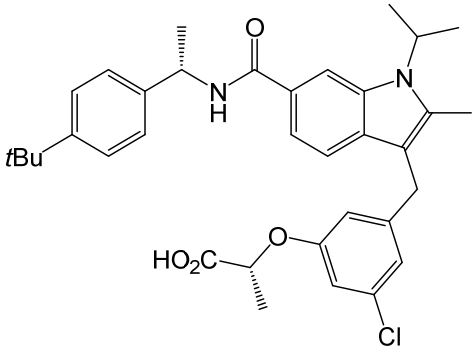
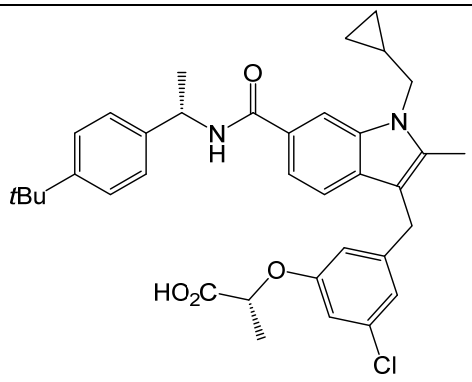
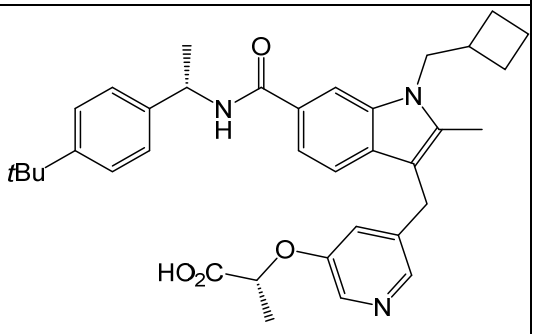
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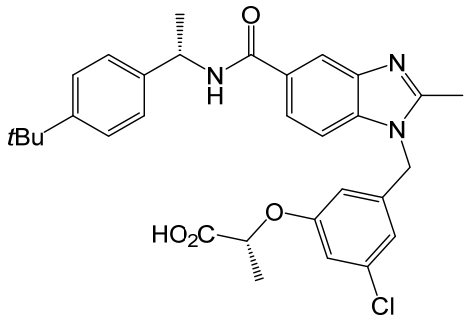
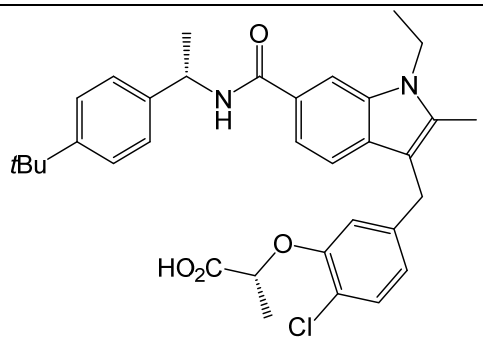
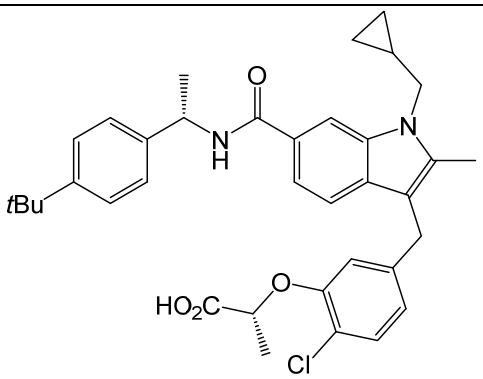
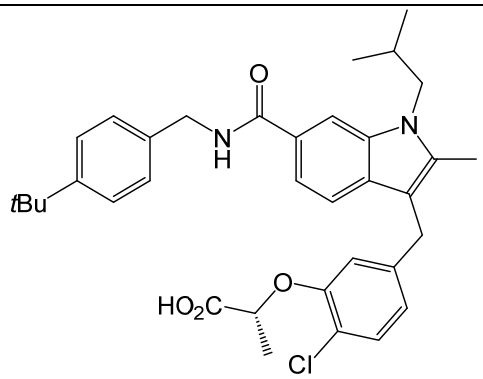
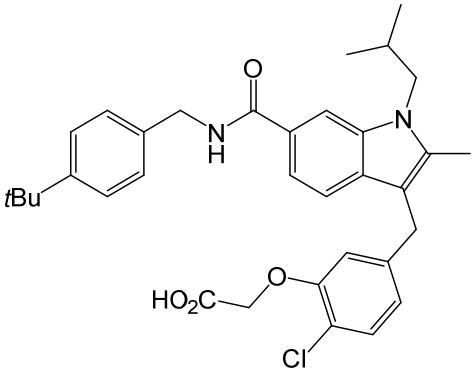
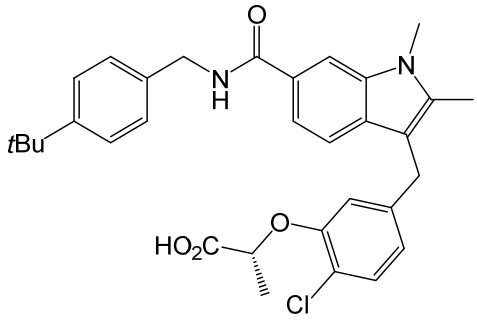
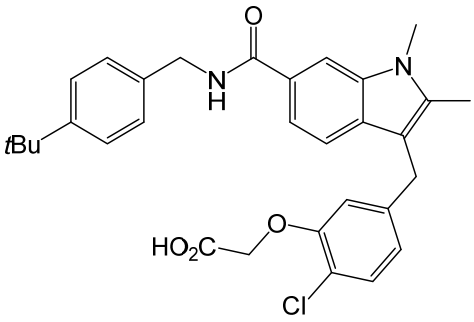
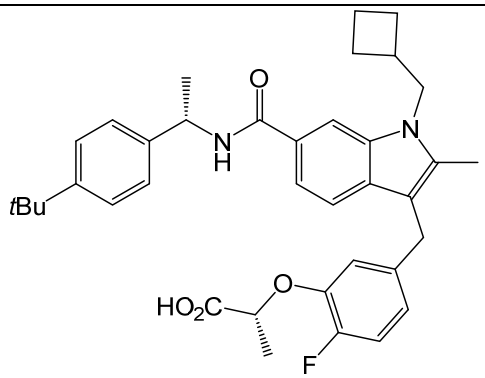
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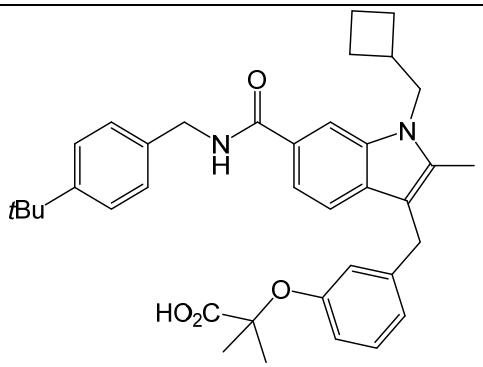
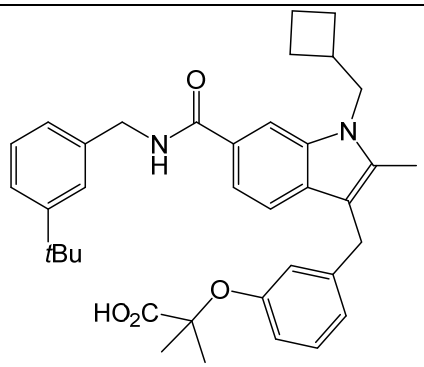
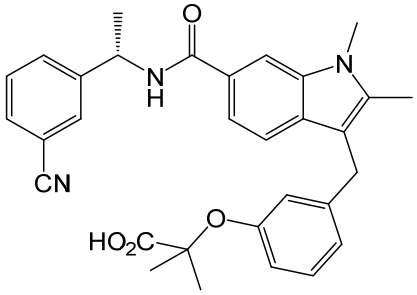
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or a pharmaceutically acceptable salt or prodrug thereof.

10. A composition comprising the compound of any one of claims 1-9, or a pharmaceutically acceptable salt or prodrug thereof, and an excipient.

11. Use of a compound of any one of claims 1-9, or a pharmaceutically acceptable salt or prodrug thereof, or a composition of claim 10, in the manufacture of a medicament for treating or preventing a disease or disorder; optionally

wherein:

(a) the disease or disorder is associated with peroxisome proliferator-activated receptor γ (PPARγ); and/or

(b) the disease or disorder is a progressive bone disease; optionally

wherein the progressive bone disease is osteoporosis or Paget's Disease; or

(c) the disease or disorder is a proliferative disease; optionally

wherein the proliferative disease is cancer; optionally

wherein the cancer is colorectal cancer, pancreatic cancer, bladder cancer, esophageal cancer, breast cancer, prostate cancer, blood cancer, or bone cancer; or

wherein the cancer is multiple myeloma; or

(d) the disease or disorder is a metabolic disease; optionally

wherein the metabolic disease is diabetes, obesity, metabolic syndrome, atherosclerotic vascular disease, non-alcoholic steatohepatitis (NASH), fatty liver

disease, weight loss, adipose tissue remodeling, metabolic bone disease, or hyperparathyroidism; and/or

(e) wherein side effects experienced by the subject are reduced compared with administration of a PPARγ agonist; optionally

wherein the side effects comprise weight gain, edema, impairment of bone growth or formation, cardiac hypertrophy, congestive heart failure, vascular leak syndrome, and/or hepatotoxicity.

12. Use of a compound of any one of claims 1-9, or a pharmaceutically acceptable salt or prodrug thereof, or a composition of claim 10, in the manufacture of a medicament for inhibiting cell proliferation or promoting apoptosis or modulating peroxisome proliferator-activated receptor γ (PPARγ) in a subject in need thereof or in a cell, tissue, or biological sample, wherein the subject in need thereof is to be administered or the cell, tissue, or biological sample is to be contacted with an effective amount of:

a compound of any one of claims 1-55, or a pharmaceutically acceptable salt or prodrug thereof;

or the composition of claim 56;

wherein the cell, tissue, or biological sample is *in vivo*.

13. A method of inhibiting cell proliferation or promoting apoptosis or modulating peroxisome proliferator-activated receptor γ (PPARγ) in a cell, tissue, or biological sample, comprising contacting the cell, tissue, or biological sample with an effective amount of:

a compound of any one of claims 1-9, or a pharmaceutically acceptable salt or prodrug thereof;

or the composition of claim 10;

wherein the cell, tissue, or biological sample is *in vitro*.

14. The use or method of any one of clams 11-13, wherein the use or method comprises:

(a) not activating PPARγ; and/or

(b) reducing phosphorylation of PPARγ at serine 273; and/or

(c) normalizing the functional remodeling activities of osteocytes, osteoblasts, and/or osteoclasts to result in healthy bone structure and/or strength; and/or

(d) decreasing marrow adiposity; and/or

(e) increasing trabecular and cortical bone and/or improving metabolic parameters; optionally

wherein improving metabolic parameters comprises reducing fasting plasma glucose into a normal range less than 100 mg/dl and HbA1c less than 6%.

15. A kit comprising:

the compound of any one of claims 1-9, or a pharmaceutically acceptable salt or prodrug thereof, or the composition of claim 10;

and instructions for its use.

16. A compound of any one of claims 1-9, or a pharmaceutically acceptable salt or prodrug thereof, or a composition of claim 10, for use as a medicament.