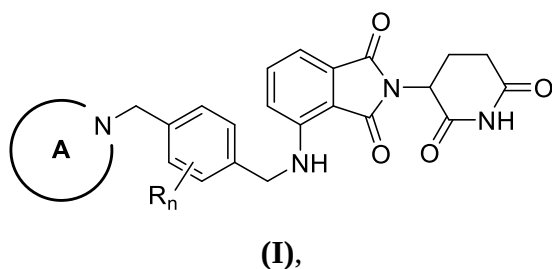


What is claimed is:

1. A compound of formula (I):



or a pharmaceutically acceptable salt, tautomer, isotopolog, or stereoisomer thereof,

wherein:

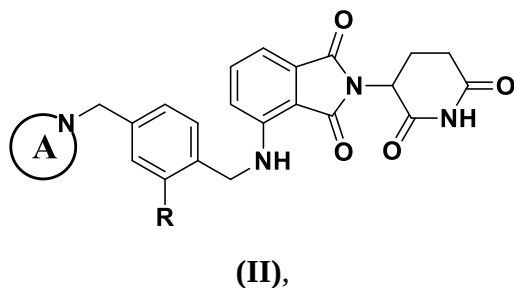
Ring A is an optionally substituted non-aromatic heterocyclyl;

each R is independently substituted or unsubstituted C₁₋₃ alkyl, or halogen;

and

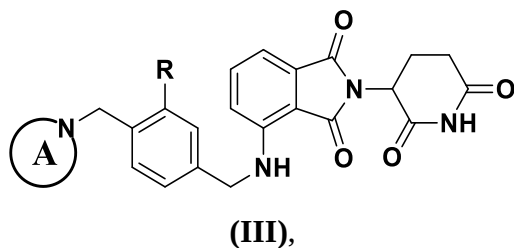
n is 0, 1, 2, 3 or 4.

2. The compound of claim 1, wherein the compound is a compound of formula (II):



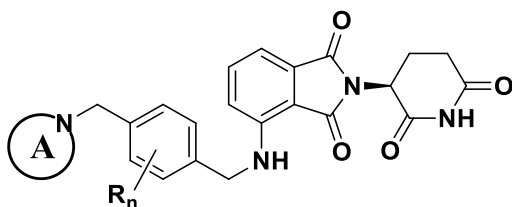
or a pharmaceutically acceptable salt, tautomer, isotopolog, or stereoisomer thereof.

3. The compound of claim 1, wherein the compound is a compound of formula (III):



or a pharmaceutically acceptable salt, tautomer, isotopolog, or stereoisomer thereof.

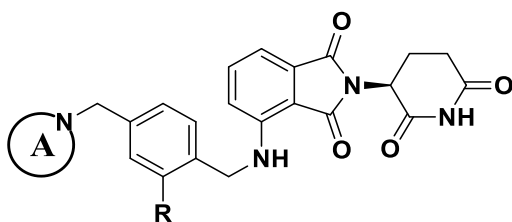
4. The compound of claim 1, wherein the compound is a compound of formula (IV):



(IV),

or a pharmaceutically acceptable salt, tautomer, or isotopolog thereof.

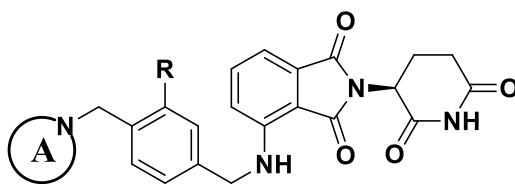
5. The compound of claim 4, wherein the compound is a compound of formula (V):



(V),

or a pharmaceutically acceptable salt, tautomer, or isotopolog thereof.

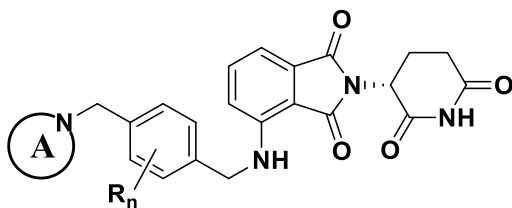
6. The compound of claim 4, wherein the compound is a compound of formula (VI):



(VI),

or a pharmaceutically acceptable salt, tautomer, or isotopolog thereof.

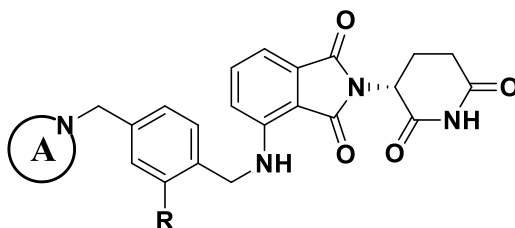
7. The compound of claim 1, wherein the compound is a compound of formula (VII):



(VII),

or a pharmaceutically acceptable salt, tautomer, or isotopolog thereof.

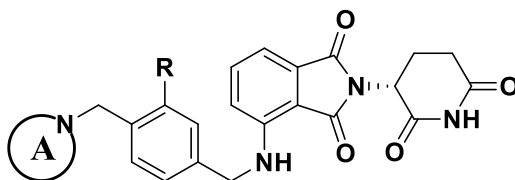
8. The compound of claim 7, wherein the compound is a compound of formula (VIII):



(VIII),

or a pharmaceutically acceptable salt, tautomer, or isotopolog thereof.

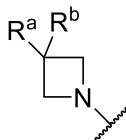
9. The compound of claim 7, wherein the compound is a compound of formula (IX):



(IX),

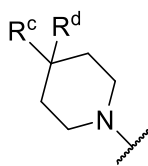
or a pharmaceutically acceptable salt, tautomer, or isotopolog thereof.

10. The compound of any one of claims 1–9, wherein Ring A is



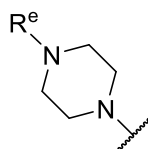
wherein R^a is H, and R^b is C_{1-6} alkyl, non-aromatic heterocyclyl, aryl, heteroaryl, or O-aryl; or R^a and R^b together with the carbon to which they are attached form a 3-6 membered cycloalkyl, or a 4-6 membered non-aromatic heterocyclyl; wherein the alkyl, cycloalkyl, heterocyclyl, aryl, or heteroaryl are optionally substituted with one or more halogen, C_{1-3} alkyl, or CN.

11. The compound of any one of claims 1–9, wherein Ring A is



wherein R^c is H, halogen, OH, or (C_{1-3} alkyl); and R^d is optionally substituted (C_{1-3} alkyl), OR^1 , $C(O)N(R^2)_2$, $SO_2(C_{1-4}$ alkyl), C_{3-7} cycloalkyl, non-aromatic heterocyclyl, aryl, heteroaryl, or O-heteroaryl; or R^c and R^d together with the carbon to which they are attached form a 3-6 membered cycloalkyl, or a 4-6 membered non-aromatic heterocyclyl; wherein R^1 is H, optionally substituted C_{1-6} alkyl, or optionally substituted $-(C_{0-3}$ alkyl)-(C_{3-7} cycloalkyl); each R^2 is independently H, or C_{1-6} alkyl; and wherein the alkyl, cycloalkyl, heterocyclyl, aryl, or heteroaryl are optionally substituted with one or more halogen, C_{1-3} alkyl, or CN.

12. The compound of any one of claims 1–9, wherein Ring A is



wherein R^e is C_{1-6} alkyl, $SO_2(C_{1-4}$ alkyl), $-(C_{0-3}$ alkyl)-(C_{3-7} cycloalkyl), aryl, heteroaryl or CO-aryl; wherein the alkyl, cycloalkyl, aryl, or heteroaryl are optionally substituted.

13. The compound of any one of claims 1–9, wherein Ring A is an optionally substituted non-aromatic heterocyclyl selected from azetidyl; piperidyl; piperazinyl; morpholinyl; 5-azaspiro[2.3]hexyl; 2-azaspiro[3.3]heptyl; 2-oxa-6-azaspiro[3.3]heptyl; 2-azaspiro[3.4]octyl; 5-oxa-2-azaspiro[3.4]octyl; 6-oxa-2-azaspiro[3.4]octyl; 2-azaspiro[3.5]nonyl; 7-oxa-2-azaspiro[3.5]nonyl; octahydrocyclopenta[c]pyrrolyl; 1,2,3,3a,4,6a-hexahydrocyclopenta[c]pyrrolyl; 6-azaspiro[3.4]octyl; 2-oxa-6-azaspiro[3.4]octyl; 6-azaspiro[2.5]octyl; 7-azaspiro[3.5]nonyl; 1-oxa-8-azaspiro[4.5]decanyl; 2-oxa-8-azaspiro[4.5]decanyl; 2,8-diazaspiro[4.5]decan-1-onyl; 3-oxa-9-azaspiro[5.5]undecanyl; 1,4-oxazepanyl; 8-azabicyclo[3.2.1]octyl; and isoindolinyl.

14. The compound of claim 13, wherein Ring A is substituted with one or more substituents independently selected from halogen, C_{1-6} alkyl, OR^1 , $CON(R^2)_2$, $SO_2(C_{1-4}$ alkyl), $N(R^2)SO_2(C_{1-4}$ alkyl), $-(C_{0-3}$ alkyl)-(C_{3-7} cycloalkyl), (non-aromatic

heterocyclyl), aryl, heteroaryl, O-aryl, O-heteroaryl, and C(O)aryl; wherein the alkyl, cycloalkyl, heterocyclyl, aryl, or heteroaryl are optionally substituted; wherein R¹ is H, optionally substituted C₁₋₆ alkyl, or optionally substituted -(C₀₋₃ alkyl)-(C₃₋₇ cycloalkyl); and each R² is independently H, or C₁₋₆ alkyl.

15. The compound of claim 13, wherein Ring A is substituted with one or more substituents independently selected from F, Cl, Br, CH₃, CH₂CH₃, n-propyl, isopropyl, n-butyl, sec-butyl, isobutyl, t-butyl, n-pentyl, isopentyl, CH₂F, CHF₂, CF₃, CH₂CH₂F, CH₂CHF₂, CH₂CF₃, CH(CH₃)CF₃, CH₂CH₂CF₃, OH, OCH₃, OCH₂CH₃, O-isopropyl, O-n-propyl, O-n-butyl, O-isobutyl, O-t-butyl, OCF₃, O-cyclopropyl, O-cyclobutyl, OCH₂-cyclopropyl, OCH₂-cyclobutyl, CONH₂, CONH(CH₃), CON(CH₃)₂, SO₂CH₃, SO₂CH₂CH₃, SO₂-isopropyl, cyclopropyl, cyclobutyl, CH₂-cyclopropyl, CH₂-cyclobutyl; (non-aromatic heterocyclyl) selected from azetidyl, pyrrolidyl, pyrrolidonyl, isothiazolidyl, isothiazolidine 1,1-dioxidyl, piperidyl, piperazinyl, morpholinyl, 3-oxa-8-azabicyclo[3.2.1]octyl, or 8-oxa-3-azabicyclo[3.2.1]octyl, wherein the heterocyclyl is optionally substituted with one or more substituents independently selected from CH₃, CH₂CH₃, or CF₃; phenyl, O-phenyl or C(O)-phenyl, wherein the phenyl is optionally substituted with one or more substituents independently selected from F, Cl, CH₃, CN, or CONH₂; heteroaryl selected from pyrazolyl, imidazolyl, oxazolyl, isoxazolyl, oxadiazolyl, thiadiazolyl, pyridyl, pyrazinyl, pyridazinyl, pyrimidyl, or benzoisoxazolyl, wherein the heteroaryl is optionally substituted with one or more substituents independently selected from F, Cl, CF₃, CN, CONH₂, CONH(CH₃)₂ or CON(CH₃)₂; O-pyridyl, and O-pyrimidyl.

16. The compound of claim 13, wherein Ring A is substituted with one or more substituents independently selected from F, CH₃, CH₂CH₃, isopropyl, t-butyl, CH₂F, CF₃, CH(CH₃)CF₃, OH, OCH₃, OCH₂CH₃, O-isopropyl, O-n-propyl, O-isobutyl, O-t-butyl, OCF₃, O-cyclobutyl, OCH₂-cyclopropyl, CON(CH₃)₂, SO₂CH₂CH₃, SO₂-isopropyl, cyclopropyl, cyclobutyl, CH₂-cyclopropyl; (non-aromatic heterocyclyl) selected from pyrrolidyl, pyrrolidonyl, isothiazolidine 1,1-dioxidyl, morpholinyl, 3-oxa-8-azabicyclo[3.2.1]octyl, or 8-oxa-3-azabicyclo[3.2.1]octyl, wherein the heterocyclyl is optionally substituted with one or more substituents independently selected from CH₃; phenyl, O-phenyl or C(O)-phenyl, wherein the phenyl is optionally substituted with one or more substituents independently selected from F, Cl, CH₃, CN, or CONH₂; heteroaryl selected from pyrazolyl, oxazolyl,

oxadiazolyl, thiadiazolyl, pyridyl, pyrazinyl, pyrimidyl or benzoisoxazolyl, wherein the heteroaryl is optionally substituted with one or more substituents independently selected from F, Cl, CF₃, CN, CONH₂, CON(CH₃)₂; O-pyridyl, and O-pyrimidyl.

17. The compound of claim 13, wherein Ring A is azetidyl, substituted with one or more substituents independently selected from C₁₋₆ alkyl, (non-aromatic heterocyclyl), aryl, heteroaryl, O-aryl, and O-heteroaryl; wherein the alkyl, cycloalkyl, heterocyclyl, aryl, or heteroaryl are optionally substituted.

18. The compound of claim 13, wherein Ring A is azetidyl, substituted with one or more substituents independently selected from CH₂CH₃, n-propyl, isopropyl, n-butyl, sec-butyl, isobutyl, t-butyl; CF₃; pyrrolidyl; pyrrolidonyl; piperidyl; piperazinyl; morpholinyl, optionally substituted with one or more CH₃; 3-oxa-8-azabicyclo[3.2.1]octyl; 8-oxa-3-azabicyclo[3.2.1]octyl; pyrazolyl; 2-pyridyl; 3-pyridyl; 4-pyridyl, phenyl; and O-phenyl; wherein the phenyl optionally is substituted with one or more substituents selected from F or CN.

19. The compound of claim 13, wherein Ring A is piperidyl, substituted with one or more substituents independently selected from halogen, C₁₋₆ alkyl, OR¹, CON(R²)₂, SO₂(C₁₋₄ alkyl), C₃₋₇ cycloalkyl, non-aromatic heterocyclyl, aryl, heteroaryl and O-heteroaryl; wherein the alkyl, cycloalkyl, heterocyclyl, aryl, or heteroaryl are optionally substituted; wherein R¹ is H, optionally substituted C₁₋₆ alkyl, or optionally substituted -(C₀₋₃ alkyl)-(C₃₋₇ cycloalkyl); and each R² is independently H, or C₁₋₆ alkyl.

20. The compound of claim 13, wherein Ring A is piperidyl, substituted with one or more substituents independently selected from F, Cl, CH₃, CH₂CH₃, n-propyl, isopropyl, n-butyl, sec-butyl, isobutyl, t-butyl, CH₂F, CHF₂, CF₃, OH, OCH₃, OCH₂CH₃, O-n-propyl, O-isopropyl, O-n-butyl, O-isobutyl, O-t-butyl, OCF₃, O-cyclopropyl, O-cyclobutyl, OCH₂-cyclopropyl, OCH₂-cyclobutyl, CONH₂, CONH(CH₃), CON(CH₃)₂, SO₂CH₃, SO₂CH₂CH₃, SO₂-isopropyl, cyclopropyl, cyclobutyl, pyrrolidonyl, isothiazolidine 1,1-dioxidyl, morpholinyl; tetrahydrofuranyl, tetrahydropyranyl, pyrazolyl; oxadiazolyl, optionally substituted with CH₃; phenyl, optionally substituted with one or more F; 2-pyridyl, 3-pyridyl, 4-pyridyl, O-2-pyridyl, O-3-pyridyl, and O-4-pyridyl.

21. The compound of claim 13, wherein Ring A is piperidyl, substituted with one or more substituents independently selected from F, CH₃, CH₂CH₃, isopropyl, t-butyl, CHF₂, CF₃, OH, OCH₃, OCH₂CH₃, O-isopropyl, O-isobutyl, O-t-butyl, OCF₃, O-cyclobutyl, OCH₂-cyclopropyl, CON(CH₃)₂, SO₂CH₂CH₃, SO₂-isopropyl, cyclopropyl, pyrrolidonyl, isothiazolidine 1,1-dioxidyl, morpholinyl; tetrahydropyranyl, pyrazolyl, oxadiazolyl, substituted with CH₃; phenyl, substituted with one or more F; 2-pyridyl, and O-2-pyridyl.

22. The compound of claim 13, wherein Ring A is piperazinyl, substituted with one or more substituents independently selected from C₁₋₆ alkyl, SO₂(C₁₋₄ alkyl), - (C₀₋₃ alkyl)-(C₃₋₇ cycloalkyl), aryl, heteroaryl and CO-aryl; wherein the alkyl, cycloalkyl, aryl, or heteroaryl are optionally substituted.

23. The compound of claim 13, wherein Ring A is piperazinyl, substituted with one or more substituents independently selected from CH₃, CH₂CH₃, n-propyl, isopropyl, n-butyl, sec-butyl, isobutyl, t-butyl, CF₃, CH₂CF₃, CH(CH₃)CF₃, SO₂CH₃, SO₂CH₂CH₃, SO₂-isopropyl, cyclopropyl, cyclobutyl, (CH₂)cyclopropyl, (CH₂)cyclobutyl, phenyl, optionally substituted with one or more Cl, F, CN, CH₃, CONH₂; pyrazolyl, optionally substituted with CH₃ or CH₂CH₃; oxazolyl, optionally substituted with CH₃ or CH₂CH₃; oxadiazolyl, optionally substituted with CH₃ or CH₂CH₃; thiadiazolyl, optionally substituted with CH₃, CH₂CH₃, or CF₃; 2-pyridyl, 3-pyridyl, or 4-pyridyl, each optionally substituted with Cl, F, CF₃, CN, CONH₂, CONH(CH₃) or CON(CH₃)₂; pyrazinyl, optionally substituted with CH₃ or CH₂CH₃; pyrimidyl, optionally substituted with OCH₃; benzoisoxazolyl; and CO(phenyl), wherein the phenyl is optionally fluorinated.

24. The compound of claim 13, wherein Ring A is piperazinyl, substituted with one or more substituents independently selected from CH₃, isopropyl, t-butyl, CH(CH₃)CF₃, SO₂CH₂CH₃, SO₂-isopropyl, cyclopropyl, cyclobutyl, (CH₂)cyclopropyl, phenyl, optionally substituted with one or more Cl, F, CN, CH₃, CONH₂; pyrazolyl, optionally substituted with CH₃; oxazolyl, optionally substituted with CH₃; oxadiazolyl, optionally substituted with CH₂CH₃; thiadiazolyl, optionally substituted with CH₃, or CH₂CH₃; 2-pyridyl, optionally substituted with Cl, F, CF₃, CN, or CONH₂; 3-pyridyl, optionally substituted with CF₃, CN, CONH₂, or CON(CH₃)₂; 4-pyridyl, optionally substituted with CONH₂; pyrazinyl, optionally substituted with CH₃; pyrimidyl, optionally substituted with OCH₃; benzoisoxazolyl; and CO(phenyl), wherein the phenyl is optionally fluorinated.

25. The compound of claim 13, wherein Ring A is morpholinyl, and R is F or CH₃, and n is 1.

26. The compound of claim 13, wherein Ring A is selected from 5-azaspiro[2,3]hexyl; 2-azaspiro[3.3]heptyl; 2-oxa-6-azaspiro[3.3]heptyl; 2-azaspiro[3.4]octyl; 5-oxa-2-azaspiro[3.4]octyl; 6-oxa-2-azaspiro[3.4]octyl; 2-azaspiro[3.5]nonyl; 7-oxa-2-azaspiro[3.5]nonyl; octahydrocyclopenta[c]pyrrolyl; 1,2,3,3a,4,6a-hexahydrocyclopenta[c]pyrrolyl; 6-azaspiro[3.4]octyl; 2-oxa-6-azaspiro[3.4]octyl; 6-azaspiro[2.5]octyl; 7-azaspiro[3.5]nonyl; 1-oxa-8-azaspiro[4.5]decanyl; 2-oxa-8-azaspiro[4.5]decanyl; 2,8-diazaspiro[4.5]decan-1-onyl; 3-oxa-9-azaspiro[5.5]undecanyl; 1,4-oxazepanyl; 8-azabicyclo[3.2.1]octyl; and isoindolinyl; each optionally substituted with one or more CH₃ or F.

27. The compound of any one of claims 1–26, wherein R is F.

28. The compound of any one of claims 1–26, wherein R is CH₃.

29. The compound of any one of claims 1–28, wherein n is 1.

30. The compound of claim 1, wherein the compound is selected from Table 1.

31. A pharmaceutical composition comprising an effective amount of a compound of any one of claims 1–30, or a pharmaceutically acceptable salt, tautomer, isotopologue, or stereoisomer thereof, and a pharmaceutically acceptable carrier, excipient or vehicle.

32. Use of a compound of any one of claims 1-30, or a pharmaceutical composition of claim 31 in the manufacture of a medicament for ~~A method for the treatment of diffuse large B-cell lymphoma (DLBCL), comprising administering to a subject in need thereof an effective amount of a compound of any one of claims 1–30, or a pharmaceutical composition of claim 31.~~

33. ~~The method~~ use of claim 32, wherein the DLBCL is relapsed or refractory DLBCL.

34. The ~~method~~use of claim 33, wherein the DLBCL is refractory to one or more of rituximab, cyclophosphamide, doxorubicin, vincristine, prednisone, etoposide, bendamustine, lenalidomide, or gemcitabine.

35. The ~~method~~use of claim 32, wherein the DLBCL is newly diagnosed DLBCL.

36. The ~~method~~use of any one of claims 32–35, ~~further comprising administering wherein the medicament is for use in combination with~~ one or more of rituximab, cyclophosphamide, doxorubicin, vincristine, prednisone, etoposide, bendamustine, lenalidomide, or gemcitabine.

~~37.—A compound of any one of claims 1–30 or a pharmaceutical composition of claim 31 for use in a method for the treatment of diffuse large B-cell lymphoma (DLBCL), the method comprising administering to a subject in need thereof an effective amount of the compound or the pharmaceutical composition.~~

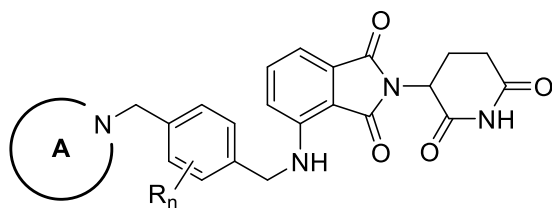
~~38.—The compound or pharmaceutical composition for use of claim 37, wherein the DLBCL is relapsed or refractory DLBCL.~~

~~39.—The compound or pharmaceutical composition for use of claim 38, wherein the DLBCL is refractory to one or more of rituximab, cyclophosphamide, doxorubicin, vincristine, prednisone, etoposide, bendamustine, lenalidomide, or gemcitabine.~~

~~40.—The compound or pharmaceutical composition for use of claim 37, wherein the DLBCL is newly diagnosed DLBCL.~~

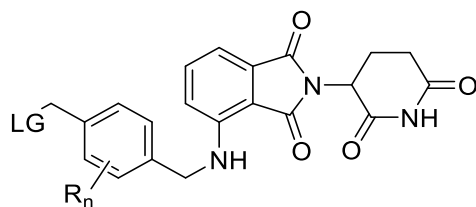
~~41.—The compound or pharmaceutical composition for use of any one of claims 37–40, further comprising administering one or more of rituximab, cyclophosphamide, doxorubicin, vincristine, prednisone, etoposide, bendamustine, lenalidomide, or gemcitabine.~~

~~42.~~37. A method for preparing a compound of formula (I):



(I)

the method comprising contacting a compound of formula (Ia):



(Ia),

with



in the presence of a base, in a solvent, under conditions suitable to provide a compound of formula (I), wherein

Ring A is an optionally substituted non-aromatic heterocyclyl;

each R is independently substituted or unsubstituted C₁₋₃ alkyl, or

halogen;

n is 0, 1, 2, 3 or 4; and

LG is OMs, OTs, or halogen.