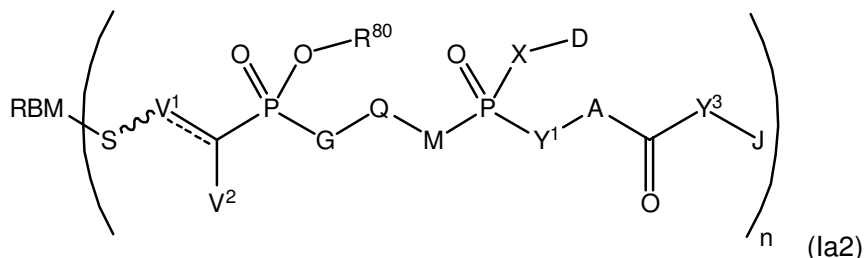


Claims

1. A conjugate having the formula
(Ia2):



or a pharmaceutically acceptable salt or solvate thereof;

wherein:

RBM is a receptor binding molecule; wherein the receptor binding molecule is an antibody, wherein attachment to the receptor binding molecule (RBM) is via a sulfur atom;

M is O, NR^{M60} , or S;

R^{M60} is selected from the group consisting of hydrogen, $(\text{C}_1\text{-C}_8)\text{alkyl}$, $(\text{C}_6\text{-C}_{10})\text{aryl}$, and $(\text{C}_1\text{-C}_8)\text{alkylene}(\text{C}_6\text{-C}_{10})\text{aryl}$;

X is O, S, or NR^{X10} ;

R^{X10} is hydrogen; or an optionally substituted aliphatic residue or an optionally substituted aromatic residue;

D is a drug moiety;

Y^1 is NR^{A20} or O, ;

R^{A20} is selected from the group consisting of hydrogen, $(\text{C}_1\text{-C}_8)\text{alkyl}$, $(\text{C}_6\text{-C}_{10})\text{aryl}$, and $\text{C}_1\text{-C}_8\text{alkylene}(\text{C}_6\text{-C}_{10})\text{aryl}$;

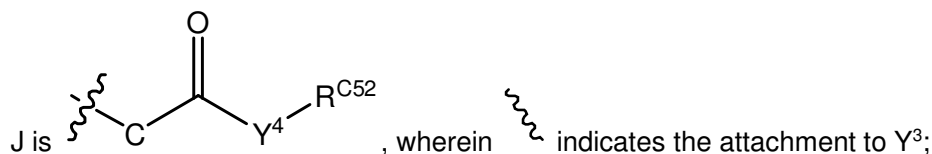
A is $\text{CR}^{\text{A30}}\text{R}^{\text{A31}}$;

R^{A30} and R^{A31} are each independently selected from the group consisting of hydrogen, $(\text{C}_1\text{-C}_8)\text{alkyl}$, $(\text{C}_3\text{-C}_8)\text{cycloalkyl}$, $(\text{C}_2\text{-C}_8)\text{alkenyl}$, $(\text{C}_5\text{-C}_8)\text{cycloalkenyl}$, $(\text{C}_6\text{-C}_{10})\text{aryl}$, and $(\text{C}_1\text{-C}_8)\text{alkylene}(\text{C}_6\text{-C}_{10})\text{aryl}$; wherein each $(\text{C}_1\text{-C}_8)\text{alkyl}$, $(\text{C}_3\text{-C}_8)\text{cycloalkyl}$, $(\text{C}_2\text{-C}_8)\text{alkenyl}$, $(\text{C}_5\text{-C}_8)\text{cycloalkenyl}$, $(\text{C}_6\text{-C}_{10})\text{aryl}$ or $(\text{C}_1\text{-C}_8)\text{alkylene}(\text{C}_6\text{-C}_{10})\text{aryl}$ may be optionally substituted with one or more substituents selected from the group consisting of $(\text{C}_1\text{-C}_8)\text{alkyl}$, halo, hydroxy, $(\text{C}_1\text{-C}_8)\text{alkoxy}$, amino, $(\text{C}_1\text{-C}_8)\text{alkylamino}$, $\text{di}(\text{C}_1\text{-C}_8)\text{alkylamino}$, SH, $(\text{C}_1\text{-C}_8)\text{alkylthio}$, $(\text{C}_3\text{-C}_8)\text{heterocyclyl}$, carboxylate and esters thereof, $\text{carboxy}(\text{C}_1\text{-C}_8)\text{alkyl}$, $\text{CONHR}^{\text{A36}}$ and $\text{CONR}^{\text{A36}}\text{R}^{\text{A37}}$, wherein R^{A36} and R^{A37} , which may be the same or different, are independently

selected from (C₁-C₈)alkyl, (C₁-C₈)alkylene(C₆-C₁₀)aryl or (C₆-C₁₀)aryl; optionally R^{A30} and R^{A31} can together form a 3 to 8-membered ring;

Y³ is O, NR^{C40}, S, or absent;

R^{C40} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl;



C is CR^{C50}R^{C51}; or

C is (C₁-C₈)alkylene, wherein the (C₁-C₈)alkylene may be optionally substituted with one or more substituents selected from the group consisting of (C₁-C₈)alkyl, halo, hydroxy, (C₁-C₈)alkoxy, amino, (C₁-C₈)alkylamino, di(C₁-C₈)alkylamino, SH, (C₁-C₈)alkylthio, (C₃-C₈)heterocyclyl, carboxylate and esters thereof, carboxy(C₁-C₈)alkyl, CONHR^{C36} and CONR^{C36}R^{C37}, wherein R^{C36} and R^{C37}, which may be the same or different, are independently selected from (C₁-C₈)alkyl, (C₁-C₈)alkylene(C₆-C₁₀)aryl or (C₆-C₁₀)aryl;

R^{C50} and R^{C51} are each independently selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl; wherein each (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₆-C₁₀)aryl or (C₁-C₈)alkylene(C₆-C₁₀)aryl may be optionally substituted with one or more substituents selected from the group consisting of (C₁-C₈)alkyl, halo, hydroxy, (C₁-C₈)alkoxy, amino, (C₁-C₈)alkylamino, di(C₁-C₈)alkylamino, SH, (C₁-C₈)alkylthio, (C₃-C₈)heterocyclyl, carboxylate and esters thereof, carboxy(C₁-C₈)alkyl, CONHR^{C36} and CONR^{C36}R^{C37}, wherein R^{C36} and R^{C37}, which may be the same or different, are independently selected from (C₁-C₈)alkyl, (C₁-C₈)alkylene(C₆-C₁₀)aryl or (C₆-C₁₀)aryl; optionally R^{C50} and R^{C51} can together form a 3 to 8-membered ring;

Y⁴ is O, NR^{C53}, S, CR^{C54}R^{C55}, or absent;

R^{C52} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₃-C₈)heterocyclyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl; wherein each (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₃-

C₈)heterocyclyl, (C₆-C₁₀)aryl or (C₁-C₈)alkylene(C₆-C₁₀)aryl may be optionally substituted with one or more substituents selected from the group consisting of (C₁-C₈)alkyl, halo, hydroxy, (C₁-C₈)alkoxy, amino, (C₁-C₈)alkylamino, di(C₁-C₈)alkylamino, SH, (C₁-C₈)alkylthio, (C₃-C₈)heterocyclyl, carboxylate and esters thereof, carboxy(C₁-C₈)alkyl, CONHR^{C56} and CONR^{C56}R^{C57}, wherein R^{C56} and R^{C57}, which may be the same or different, are independently selected from (C₁-C₈)alkyl, (C₁-C₈)alkylene(C₆-C₁₀)aryl or (C₆-C₁₀)aryl;

R^{C53} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl;

R^{C54} and R^{C55} are each independently selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl; or

J is selected from the group consisting of (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₃-C₈)heterocyclyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl; wherein each (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₃-C₈)heterocyclyl, (C₆-C₁₀)aryl or (C₁-C₈)alkylene(C₆-C₁₀)aryl may be optionally substituted with one or more substituents selected from the group consisting of (C₁-C₈)alkyl, halo, hydroxy, (C₁-C₈)alkoxy, amino, (C₁-C₈)alkylamino, di(C₁-C₈)alkylamino, SH, (C₁-C₈)alkylthio, (C₃-C₈)heterocyclyl, carboxylate and esters thereof, carboxy(C₁-C₈)alkyl, CONHR^{C46} and CONR^{C46}R^{C47}, wherein R^{C46} and R^{C47}, which may be the same or different, are independently selected from (C₁-C₈)alkyl, (C₁-C₈)alkylene(C₆-C₁₀)aryl or (C₆-C₁₀)aryl;

wherein:

 is a double bond; V² is absent when  is a double bond; V¹ is R^{V11}—C when  is a double bond;

G is NR^{G70}, O, S or CR^{G71}R^{G72};

Q is a connector unit;

R^{V11} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl;

R^{G70} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl;

R^{G71} and R^{G72} are each independently selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl;

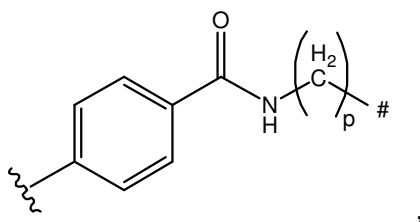
R⁸⁰ is an optionally substituted aliphatic residue or an optionally substituted aromatic residue;

n is an integer ranging from 1 to 20.

2. The conjugate of claim 1, wherein n is an integer ranging from 1 to 14.

3. The conjugate of claim 1 or 2, wherein the drug moiety is selected from the group consisting of a Mitotic Spindle-Inhibitor such as (-)-Epipodophyllotoxin, a Dehydrogenase A-Inhibitor such as (R)-GNE-140, a Kinase-Inhibitor such as (S)-3-Hydroxy Midostaurin and (R)-3-Hydroxy Midostaurin, a BET-Inhibitor such as ABBV-744, a Estrogene Receptor Agonist such as Acolbifene, a Wee1-Inhibitor such as Adavosertib, a HSP90-Inhibitor such as Alvespimycin, a Kinase-Inhibitor such as ARS-1620, a FGFR-Inhibitor such as ASP5878, a MCT1-Inhibitor such as AZD3965, a mTOR-Inhibitor such as AZD-8055, a Kinase-Inhibitor such as Belizatinib, a HIF-2 α inhibitor such as Belzutifan, a BCL-Inhibitor such as BM-1197, a VEGFR-Inhibitor such as Brivanib, a STAT3-Inhibitor such as C188, a anti tumor such as CB1151, a Kinase-Inhibitor such as Dasatinib, a EGFR-Inhibitor such as DBPR112, a CDK-Inhibitor such as Dinaciclib, a TRPC4 and TRCP5 Channel Activator such as Englerin A, a PRMT-Inhibitor such as EPZ015666, a Topoisomerase-Inhibitor such as Etoposide, a mTOR-Inhibitor such as Everolimus, a Methyltransferase-Inhibitor such as EZM 2302, a CDK-Inhibitor such as Fadraciclib, a USP7-Inhibitor such as FT671, a Estrogene Receptor Agonist such as Fulvestrant, a Estrogene Receptor Agonist such as Fulvestrant, a HSP90-Inhibitor such as Geldanamycin, a Estrogene Receptor Agonist such as GNE-274, a Kinase-Inhibitor such as GNE-493, a PRMT-Inhibitor such as GSK3326595, a Kinase-Inhibitor such as Hypothemycin, a CDK-Inhibitor such as IIM-290, a DNA alkylator such as Illudin S, a Kinase-Inhibitor such as Ilorasertib, a Kinase-Inhibitor such as Larotrectinib, a Kinase-Inhibitor such as Larotrectinib, a IGF-1-Inhibitor such as Linsitinib, a PRMT-Inhibitor such as LLY-283, a HSP90-Inhibitor such as Luminespib, a FGFR-Inhibitor such as LY2874455, a Kinase-Inhibitor such as Mirdametinib, a Kinase-Inhibitor such as MRTX1133, a Kinase-Inhibitor such as MRTX1133, a Kinase-Inhibitor such as Ningetinib, DNA minor groove binder such as Lurbinectidin or Trabectedin, a HSP90-Inhibitor such as NMS-E973, a Ribonucleotide Reductase-Inhibitor such as NSAH, a PLK1-Inhibitor such as Onvansertib, a mTOR-Inhibitor such as Palomid 529, a Kinase-Inhibitor such as PD166326, a NEDD8-Inhibitor such as Pevonedistat, a Kinase-Inhibitor such as PF-04217903, a Kinase-Inhibitor such as PF-06843195, a HSP90-Inhibitor such as PI-103, a Methyltransferase-Inhibitor such as Pinometostat, a Topoisomerase-Inhibitor such as PNU-159682, a Topoisomerase-Inhibitor such as Podofilox, a HDAC-Inhibitor such as QTX125, a mTOR-Inhibitor such as Rapamycin, a Tankyrase-Inhibitor such as RK-287107, a Kinase-Inhibitor such as RO4987655, a Kinase-Inhibitor such as RP-3500, a BCL-Inhibitor such as S55746, a BCL-Inhibitor such as S65487,

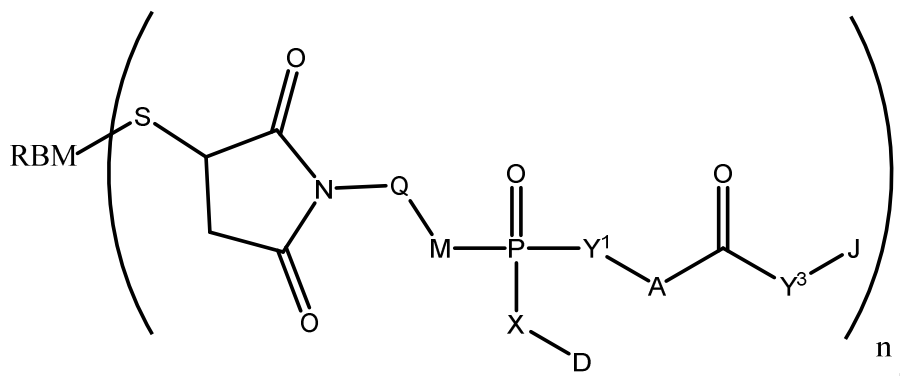
4. The conjugate of any one of claims 1 to 3, wherein Q is:



p is an integer ranging from 2 to 20;

indicates the attachment to M.

6. A conjugate having the formula:



or a pharmaceutically acceptable salt or solvate thereof;

RBM is a receptor binding molecule; wherein the receptor binding molecule is an antibody,

M is O, NR^{M60} , or S;

R^{M60} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl;

X is O, S, or NR^{X10} ;

R^{X10} is hydrogen; or an optionally substituted aliphatic residue or an optionally substituted aromatic residue;

D is a drug moiety;

Y^1 is NR^{A20} or O;

R^{A20} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and C₁-C₈alkylene(C₆-C₁₀)aryl;

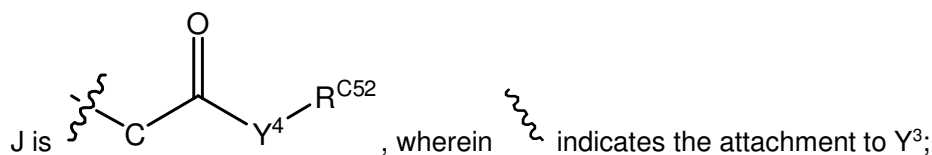
Q is a connector unit;

A is $\text{CR}^{\text{A30}}\text{R}^{\text{A31}}$;

R^{A30} and R^{A31} are each independently selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl; wherein each (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₆-C₁₀)aryl or (C₁-C₈)alkylene(C₆-C₁₀)aryl may be optionally substituted with one or more substituents selected from the group consisting of (C₁-C₈)alkyl, halo, hydroxy, (C₁-C₈)alkoxy, amino, (C₁-C₈)alkylamino, di(C₁-C₈)alkylamino, SH, (C₁-C₈)alkylthio, (C₃-C₈)heterocyclyl, carboxylate and esters thereof, carboxy(C₁-C₈)alkyl, $\text{CONHR}^{\text{A36}}$ and $\text{CONR}^{\text{A36}}\text{R}^{\text{A37}}$, wherein R^{A36} and R^{A37} , which may be the same or different, are independently selected from (C₁-C₈)alkyl, (C₁-C₈)alkylene(C₆-C₁₀)aryl or (C₆-C₁₀)aryl; optionally R^{A30} and R^{A31} can together form a 3 to 8-membered ring;

Y^3 is O, NR^{C40} , S, or absent;

R^{C40} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl;



C is CR^{C50}R^{C51}; or

C is (C₁-C₈)alkylene, wherein the (C₁-C₈)alkylene may be optionally substituted with one or more substituents selected from the group consisting of (C₁-C₈)alkyl, halo, hydroxy, (C₁-C₈)alkoxy, amino, (C₁-C₈)alkylamino, di(C₁-C₈)alkylamino, SH, (C₁-C₈)alkylthio, (C₃-C₈)heterocyclyl, carboxylate and esters thereof, carboxy(C₁-C₈)alkyl, CONHR^{C36} and CONR^{C36}R^{C37}, wherein R^{C36} and R^{C37}, which may be the same or different, are independently selected from (C₁-C₈)alkyl, (C₁-C₈)alkylene(C₆-C₁₀)aryl or (C₆-C₁₀)aryl;

R^{C50} and R^{C51} are each independently selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl; wherein each (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₆-C₁₀)aryl or (C₁-C₈)alkylene(C₆-C₁₀)aryl may be optionally substituted with one or more substituents selected from the group consisting of (C₁-C₈)alkyl, halo, hydroxy, (C₁-C₈)alkoxy, amino, (C₁-C₈)alkylamino, di(C₁-C₈)alkylamino, SH, (C₁-C₈)alkylthio, (C₃-C₈)heterocyclyl, carboxylate and esters thereof, carboxy(C₁-C₈)alkyl, CONHR^{C36} and CONR^{C36}R^{C37}, wherein R^{C36} and R^{C37}, which may be the same or different, are independently selected from (C₁-C₈)alkyl, (C₁-C₈)alkylene(C₆-C₁₀)aryl or (C₆-C₁₀)aryl; optionally R^{C50} and R^{C51} can together form a 3 to 8-membered ring;

Y⁴ is O, NR^{C53}, S, CR^{C54}R^{C55}, or absent;

R^{C52} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₃-C₈)heterocyclyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl; wherein each (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₃-C₈)heterocyclyl, (C₆-C₁₀)aryl or (C₁-C₈)alkylene(C₆-C₁₀)aryl may be optionally substituted with one or more substituents selected from the group consisting of (C₁-C₈)alkyl, halo, hydroxy, (C₁-C₈)alkoxy, amino, (C₁-C₈)alkylamino, di(C₁-C₈)alkylamino, SH, (C₁-C₈)alkylthio, (C₃-

C₈)heterocyclyl, carboxylate and esters thereof, carboxy(C₁-C₈)alkyl, CONHR^{C56} and CONR^{C56}R^{C57}, wherein R^{C56} and R^{C57}, which may be the same or different, are independently selected from (C₁-C₈)alkyl, (C₁-C₈)alkylene(C₆-C₁₀)aryl or (C₆-C₁₀)aryl;

R^{C53} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl;

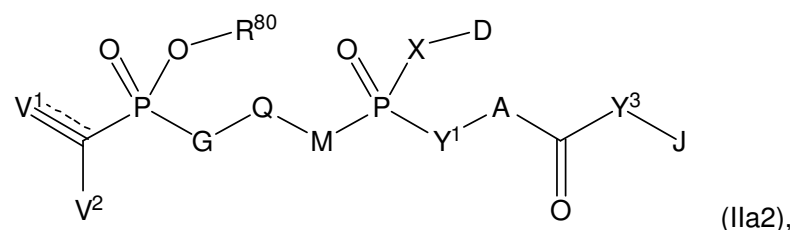
R^{C54} and R^{C55} are each independently selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl; or

J is selected from the group consisting of (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₃-C₈)heterocyclyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl; wherein each (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₃-C₈)heterocyclyl, (C₆-C₁₀)aryl or (C₁-C₈)alkylene(C₆-C₁₀)aryl may be optionally substituted with one or more substituents selected from the group consisting of (C₁-C₈)alkyl, halo, hydroxy, (C₁-C₈)alkoxy, amino, (C₁-C₈)alkylamino, di(C₁-C₈)alkylamino, SH, (C₁-C₈)alkylthio, (C₃-C₈)heterocyclyl, carboxylate and esters thereof, carboxy(C₁-C₈)alkyl, CONHR^{C46} and CONR^{C46}R^{C47}, wherein R^{C46} and R^{C47}, which may be the same or different, are independently selected from (C₁-C₈)alkyl, (C₁-C₈)alkylene(C₆-C₁₀)aryl or (C₆-C₁₀)aryl;

n is an integer ranging from 1 to 20.

7. The conjugate of claim 6, wherein RBM, G, Q, M, X, D, Y¹, A, Y³, J, and n are as defined in any one of the preceding claims.

8. A compound having the formula (IIa2):



or a pharmaceutically acceptable salt or solvate thereof;
wherein:

M is O, NR^{M60}, or S;

R^{M60} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl;

X is O, S, or NR^{X10};

R^{X10} is hydrogen; or an optionally substituted aliphatic residue or an optionally substituted aromatic residue;

D is a drug moiety;

Y¹ is O or NR^{A20};

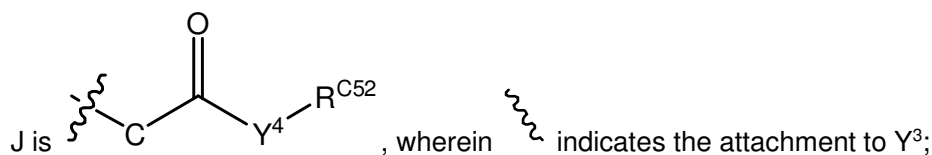
R^{A20} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl;

A is CR^{A30}R^{A31};

R^{A30} and R^{A31} are each independently selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl; wherein each (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₆-C₁₀)aryl or (C₁-C₈)alkylene(C₆-C₁₀)aryl may be optionally substituted with one or more substituents selected from the group consisting of (C₁-C₈)alkyl, halo, hydroxy, (C₁-C₈)alkoxy, amino, (C₁-C₈)alkylamino, di(C₁-C₈)alkylamino, SH, (C₁-C₈)alkylthio, (C₃-C₈)heterocyclyl, carboxylate and esters thereof, carboxy(C₁-C₈)alkyl, CONHR^{A36} and CONR^{A36}R^{A37}, wherein R^{A36} and R^{A37}, which may be the same or different, are independently selected from (C₁-C₈)alkyl, (C₁-C₈)alkylene(C₆-C₁₀)aryl or (C₆-C₁₀)aryl; optionally R^{A30} and R^{A31} can together form a 3 to 8-membered ring;

Y³ is O, NR^{C40}, S, or absent;

R^{C40} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl;



C is CR^{C50}R^{C51};

R^{C50} and R^{C51} are each independently selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl; wherein each (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₆-C₁₀)aryl or (C₁-C₈)alkylene(C₆-C₁₀)aryl may be optionally substituted with

one or more substituents selected from the group consisting of (C₁-C₈)alkyl, halo, hydroxy, (C₁-C₈)alkoxy, amino, (C₁-C₈)alkylamino, di(C₁-C₈)alkylamino, SH, (C₁-C₈)alkylthio, (C₃-C₈)heterocyclyl, carboxylate and esters thereof, carboxy(C₁-C₈)alkyl, CONHR^{C36} and CONR^{C36}R^{C37}, wherein R^{C36} and R^{C37}, which may be the same or different, are independently selected from (C₁-C₈)alkyl, (C₁-C₈)alkylene(C₆-C₁₀)aryl or (C₆-C₁₀)aryl; optionally R^{C50} and R^{C51} can together form a 3 to 8-membered ring;

Y⁴ is O, NR^{C53}, S, CR^{C54}R^{C55}, or absent;

R^{C52} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₃-C₈)heterocyclyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl; wherein each (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₃-C₈)heterocyclyl, (C₆-C₁₀)aryl or (C₁-C₈)alkylene(C₆-C₁₀)aryl may be optionally substituted with one or more substituents selected from the group consisting of (C₁-C₈)alkyl, halo, hydroxy, (C₁-C₈)alkoxy, amino, (C₁-C₈)alkylamino, di(C₁-C₈)alkylamino, SH, (C₁-C₈)alkylthio, (C₃-C₈)heterocyclyl, carboxylate and esters thereof, carboxy(C₁-C₈)alkyl, CONHR^{C56} and CONR^{C56}R^{C57}, wherein R^{C56} and R^{C57}, which may be the same or different, are independently selected from (C₁-C₈)alkyl, (C₁-C₈)alkylene(C₆-C₁₀)aryl or (C₆-C₁₀)aryl;

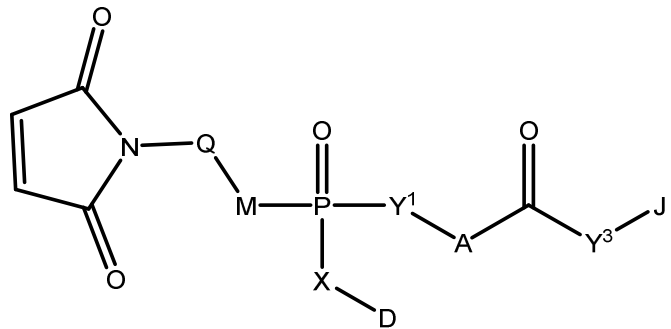
R^{C53} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl;

R^{C54} and R^{C55} are each independently selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl; or

J is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₃-C₈)heterocyclyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl; wherein each (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₃-C₈)heterocyclyl, (C₆-C₁₀)aryl or (C₁-C₈)alkylene(C₆-C₁₀)aryl may be optionally substituted with one or more substituents selected from the group consisting of (C₁-C₈)alkyl, halo, hydroxy, (C₁-C₈)alkoxy, amino, (C₁-C₈)alkylamino, di(C₁-C₈)alkylamino, SH, (C₁-C₈)alkylthio, (C₃-C₈)heterocyclyl, carboxylate and esters thereof, carboxy(C₁-C₈)alkyl, CONHR^{C46} and CONR^{C46}R^{C47}, wherein R^{C46} and R^{C47}, which may be the same or different, are independently selected from (C₁-C₈)alkyl, (C₁-C₈)alkylene(C₆-C₁₀)aryl or (C₆-C₁₀)aryl; wherein:

 is a triple bond;
 V^2 is absent when  is a triple bond;
 V^1 is $R^{V11}-C$ when  is a triple bond;
 G is NR^{G70} , S, O, or $CR^{G71}R^{G72}$;
 Q is a connector unit;
 R^{V11} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl;
 R^{G70} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl;
 R^{G71} and R^{G72} are each independently selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl;
 R^{80} is an optionally substituted aliphatic residue or an optionally substituted aromatic residue.

9. A compound having the formula:



or a pharmaceutically acceptable salt or solvate thereof;

wherein:

M is O, NR^{M60} , or S;

R^{M60} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl;

X is O, S, or NR^{X10} ;

R^{X10} is hydrogen; or an optionally substituted aliphatic residue or an optionally substituted aromatic residue;

D is a drug moiety;

Y¹ is NR^{A20} or O;

R^{A20} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and C₁-C₈alkylene(C₆-C₁₀)aryl;

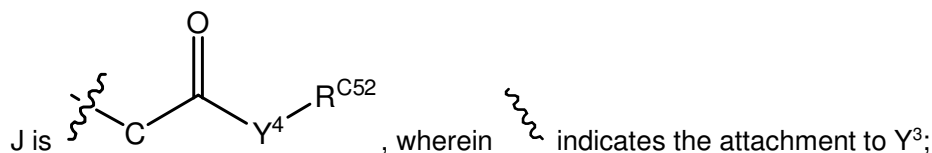
Q is a connector unit;

A is CR^{A30}R^{A31};

R^{A30} and R^{A31} are each independently selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl; wherein each (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₆-C₁₀)aryl or (C₁-C₈)alkylene(C₆-C₁₀)aryl may be optionally substituted with one or more substituents selected from the group consisting of (C₁-C₈)alkyl, halo, hydroxy, (C₁-C₈)alkoxy, amino, (C₁-C₈)alkylamino, di(C₁-C₈)alkylamino, SH, (C₁-C₈)alkylthio, (C₃-C₈)heterocyclyl, carboxylate and esters thereof, carboxy(C₁-C₈)alkyl, CONHR^{A36} and CONR^{A36}R^{A37}, wherein R^{A36} and R^{A37}, which may be the same or different, are independently selected from (C₁-C₈)alkyl, (C₁-C₈)alkylene(C₆-C₁₀)aryl or (C₆-C₁₀)aryl; optionally R^{A30} and R^{A31} can together form a 3 to 8-membered ring;

Y³ is O, NR^{C40}, S, or absent;

R^{C40} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl;



C is CR^{C50}R^{C51}; or

C is (C₁-C₈)alkylene, wherein the (C₁-C₈)alkylene may be optionally substituted with one or more substituents selected from the group consisting of (C₁-C₈)alkyl, halo, hydroxy, (C₁-C₈)alkoxy, amino, (C₁-C₈)alkylamino, di(C₁-C₈)alkylamino, SH, (C₁-C₈)alkylthio, (C₃-C₈)heterocyclyl, carboxylate and esters thereof, carboxy(C₁-C₈)alkyl, CONHR^{C36} and CONR^{C36}R^{C37}, wherein R^{C36} and R^{C37}, which may be the same or different, are independently selected from (C₁-C₈)alkyl, (C₁-C₈)alkylene(C₆-C₁₀)aryl or (C₆-C₁₀)aryl;

R^{C50} and R^{C51} are each independently selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl; wherein each (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₆-C₁₀)aryl or (C₁-C₈)alkylene(C₆-C₁₀)aryl may be optionally substituted with one or more substituents selected from the group consisting of (C₁-C₈)alkyl, halo, hydroxy, (C₁-C₈)alkoxy, amino, (C₁-C₈)alkylamino, di(C₁-C₈)alkylamino, SH, (C₁-C₈)alkylthio, (C₃-C₈)heterocyclyl, carboxylate and esters thereof, carboxy(C₁-C₈)alkyl, CONHR^{C36} and CONR^{C36}R^{C37}, wherein R^{C36} and R^{C37}, which may be the same or different, are independently selected from (C₁-C₈)alkyl, (C₁-C₈)alkylene(C₆-C₁₀)aryl or (C₆-C₁₀)aryl; optionally R^{C50} and R^{C51} can together form a 3 to 8-membered ring;

Y^4 is O, NR^{C53}, S, CR^{C54}R^{C55}, or absent;

R^{C52} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₃-C₈)heterocyclyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl; wherein each (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₃-C₈)heterocyclyl, (C₆-C₁₀)aryl or (C₁-C₈)alkylene(C₆-C₁₀)aryl may be optionally substituted with one or more substituents selected from the group consisting of (C₁-C₈)alkyl, halo, hydroxy, (C₁-C₈)alkoxy, amino, (C₁-C₈)alkylamino, di(C₁-C₈)alkylamino, SH, (C₁-C₈)alkylthio, (C₃-C₈)heterocyclyl, carboxylate and esters thereof, carboxy(C₁-C₈)alkyl, CONHR^{C56} and CONR^{C56}R^{C57}, wherein R^{C56} and R^{C57}, which may be the same or different, are independently selected from (C₁-C₈)alkyl, (C₁-C₈)alkylene(C₆-C₁₀)aryl or (C₆-C₁₀)aryl;

R^{C53} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl;

R^{C54} and R^{C55} are each independently selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl; or

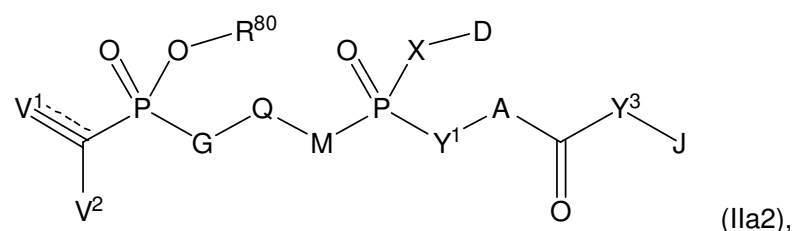
J is selected from the group consisting of (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₃-C₈)heterocyclyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl; wherein each (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₃-C₈)heterocyclyl, (C₆-C₁₀)aryl or (C₁-C₈)alkylene(C₆-C₁₀)aryl may be optionally substituted with one or more substituents selected from the group consisting of (C₁-C₈)alkyl, halo, hydroxy, (C₁-C₈)alkoxy, amino, (C₁-C₈)alkylamino, di(C₁-C₈)alkylamino, SH, (C₁-C₈)alkylthio, (C₃-C₈)heterocyclyl, carboxylate and esters thereof, carboxy(C₁-C₈)alkyl, CONHR^{C46} and CONR^{C46}R^{C47}, wherein

R^{C46} and R^{C47} , which may be the same or different, are independently selected from (C₁-C₈)alkyl, (C₁-C₈)alkylene(C₆-C₁₀)aryl or (C₆-C₁₀)aryl.

10. The compound of claim 8 or 9, wherein G, Q, M, X, D, Y¹, A, Y³ and J are as defined in any one of the preceding claims.

11. A method of preparing a conjugate of formula (Ia2), said method comprising:

reacting a compound of formula (IIa2):



or a pharmaceutically acceptable salt or solvate thereof;

wherein:

M is O, NR^{M60} , or S;

R^{M60} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl;

X is O, S, or NR^{X10} ;

R^{X10} is hydrogen; or an optionally substituted aliphatic residue or an optionally substituted aromatic residue;

D is a drug moiety;

Y¹ is NR^{A20} or O;

R^{A20} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl;

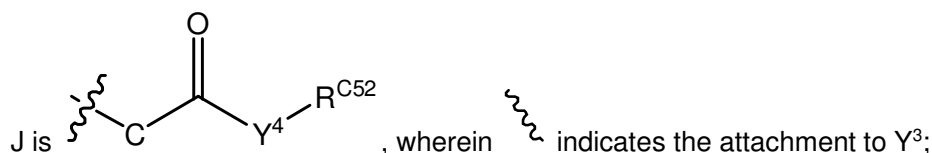
A is $CR^{A30}R^{A31}$;

R^{A30} and R^{A31} are each independently selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl; wherein each (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₆-C₁₀)aryl or (C₁-C₈)alkylene(C₆-C₁₀)aryl may be optionally substituted with one or more substituents selected from the group consisting of (C₁-C₈)alkyl, halo, hydroxy, (C₁-C₈)alkoxy, amino, (C₁-C₈)alkylamino, di(C₁-C₈)alkylamino, SH, (C₁-C₈)alkylthio, (C₃-C₈)heterocyclyl, carboxylate and esters thereof, carboxy(C₁-C₈)alkyl, $CONHR^{A36}$ and

CONR^{A36}R^{A37}, wherein R^{A36} and R^{A37}, which may be the same or different, are independently selected from (C₁-C₈)alkyl, (C₁-C₈)alkylene(C₆-C₁₀)aryl or (C₆-C₁₀)aryl; optionally R^{A30} and R^{A31} can together form a 3 to 8-membered ring;

Y³ is O, NR^{C40}, S, or absent;

R^{C40} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl;



C is CR^{C50}R^{C51};

R^{C50} and R^{C51} are each independently selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl; wherein each (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₆-C₁₀)aryl or (C₁-C₈)alkylene(C₆-C₁₀)aryl may be optionally substituted with one or more substituents selected from the group consisting of (C₁-C₈)alkyl, halo, hydroxy, (C₁-C₈)alkoxy, amino, (C₁-C₈)alkylamino, di(C₁-C₈)alkylamino, SH, (C₁-C₈)alkylthio, (C₃-C₈)heterocyclyl, carboxylate and esters thereof, carboxy(C₁-C₈)alkyl, CONHR^{C36} and CONR^{C36}R^{C37}, wherein R^{C36} and R^{C37}, which may be the same or different, are independently selected from (C₁-C₈)alkyl, (C₁-C₈)alkylene(C₆-C₁₀)aryl or (C₆-C₁₀)aryl; optionally R^{C50} and R^{C51} can together form a 3 to 8-membered ring;

Y⁴ is O, NR^{C53}, S, CR^{C54}R^{C55}, or absent;

R^{C52} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₃-C₈)heterocyclyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl; wherein each (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₃-C₈)heterocyclyl, (C₆-C₁₀)aryl or (C₁-C₈)alkylene(C₆-C₁₀)aryl may be optionally substituted with one or more substituents selected from the group consisting of (C₁-C₈)alkyl, halo, hydroxy, (C₁-C₈)alkoxy, amino, (C₁-C₈)alkylamino, di(C₁-C₈)alkylamino, SH, (C₁-C₈)alkylthio, (C₃-C₈)heterocyclyl, carboxylate and esters thereof, carboxy(C₁-C₈)alkyl, CONHR^{C56} and

CONR^{C56}R^{C57}, wherein R^{C56} and R^{C57}, which may be the same or different, are independently selected from (C₁-C₈)alkyl, (C₁-C₈)alkylene(C₆-C₁₀)aryl or (C₆-C₁₀)aryl;

R^{C53} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl;

R^{C54} and R^{C55} are each independently selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl; or

J is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₃-C₈)heterocyclyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl; wherein each (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₃-C₈)heterocyclyl, (C₆-C₁₀)aryl or (C₁-C₈)alkylene(C₆-C₁₀)aryl may be optionally substituted with one or more substituents selected from the group consisting of (C₁-C₈)alkyl, halo, hydroxy, (C₁-C₈)alkoxy, amino, (C₁-C₈)alkylamino, di(C₁-C₈)alkylamino, SH, (C₁-C₈)alkylthio, (C₃-C₈)heterocyclyl, carboxylate and esters thereof, carboxy(C₁-C₈)alkyl, CONHR^{C46} and CONR^{C46}R^{C47}, wherein R^{C46} and R^{C47}, which may be the same or different, are independently selected from (C₁-C₈)alkyl, (C₁-C₈)alkylene(C₆-C₁₀)aryl or (C₆-C₁₀)aryl; wherein:



is a triple bond;

V² is absent when  is a triple bond;

V¹ is R^{V11}—C when  is a triple bond;

G is NR^{G70}, S, O, or CR^{G71}R^{G72};

Q is a connector unit;

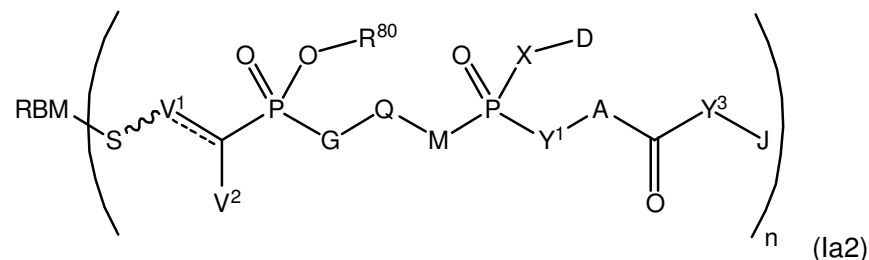
R^{V11} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl;

R^{G70} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl;

R^{G71} and R^{G72} are each independently selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl;

R⁸⁰ is an optionally substituted aliphatic residue or an optionally substituted aromatic residue;

with a receptor binding molecule (RBM) having a thiol group reactive towards the triple bond of a compound of formula (IIa2), thereby forming a covalent bond between the receptor binding molecule (RBM) and V¹ to result in a conjugate of formula (Ia2):



or a pharmaceutically acceptable salt or solvate thereof;

wherein:

RBM is a receptor binding molecule; wherein the receptor binding molecule is an antibody, wherein attachment to the receptor binding molecule (RBM) is via a sulfur atom;

M is O, NR^{M60}, or S;

R^{M60} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl;

X is O, S, or NR^{X10};

R^{X10} is hydrogen; or an optionally substituted aliphatic residue or an optionally substituted aromatic residue;

D is a drug moiety;

Y¹ is NR^{A20} or O;

R^{A20} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl;

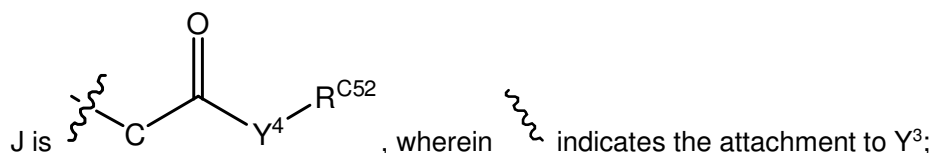
A is CR^{A30}R^{A31};

R^{A30} and R^{A31} are each independently selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl; wherein each (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₆-C₁₀)aryl or (C₁-C₈)alkylene(C₆-C₁₀)aryl may be optionally substituted with one or more substituents selected from the group consisting of (C₁-C₈)alkyl, halo, hydroxy, (C₁-C₈)alkoxy, amino, (C₁-C₈)alkylamino, di(C₁-C₈)alkylamino, SH, (C₁-C₈)alkylthio, (C₃-C₈)heterocyclyl, carboxylate and esters thereof, carboxy(C₁-C₈)alkyl, CONHR^{A36} and CONR^{A36}R^{A37}, wherein R^{A36} and R^{A37}, which may be the same or different, are independently

selected from (C₁-C₈)alkyl, (C₁-C₈)alkylene(C₆-C₁₀)aryl or (C₆-C₁₀)aryl; optionally R^{A30} and R^{A31} can together form a 3 to 8-membered ring;

Y³ is O, NR^{C40}, S, or absent;

R^{C40} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl;



C is CR^{C50}R^{C51}; or

C is (C₁-C₈)alkylene, wherein the (C₁-C₈)alkylene may be optionally substituted with one or more substituents selected from the group consisting of (C₁-C₈)alkyl, halo, hydroxy, (C₁-C₈)alkoxy, amino, (C₁-C₈)alkylamino, di(C₁-C₈)alkylamino, SH, (C₁-C₈)alkylthio, (C₃-C₈)heterocyclyl, carboxylate and esters thereof, carboxy(C₁-C₈)alkyl, CONHR^{C36} and CONR^{C36}R^{C37}, wherein R^{C36} and R^{C37}, which may be the same or different, are independently selected from (C₁-C₈)alkyl, (C₁-C₈)alkylene(C₆-C₁₀)aryl or (C₆-C₁₀)aryl;

R^{C50} and R^{C51} are each independently selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl; wherein each (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₆-C₁₀)aryl or (C₁-C₈)alkylene(C₆-C₁₀)aryl may be optionally substituted with one or more substituents selected from the group consisting of (C₁-C₈)alkyl, halo, hydroxy, (C₁-C₈)alkoxy, amino, (C₁-C₈)alkylamino, di(C₁-C₈)alkylamino, SH, (C₁-C₈)alkylthio, (C₃-C₈)heterocyclyl, carboxylate and esters thereof, carboxy(C₁-C₈)alkyl, CONHR^{C36} and CONR^{C36}R^{C37}, wherein R^{C36} and R^{C37}, which may be the same or different, are independently selected from (C₁-C₈)alkyl, (C₁-C₈)alkylene(C₆-C₁₀)aryl or (C₆-C₁₀)aryl; optionally R^{C50} and R^{C51} can together form a 3 to 8-membered ring;

Y⁴ is O, NR^{C53}, S, CR^{C54}R^{C55}, or absent;

R^{C52} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₃-C₈)heterocyclyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-

(C₁₀)aryl; wherein each (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₃-C₈)heterocyclyl, (C₆-C₁₀)aryl or (C₁-C₈)alkylene(C₆-C₁₀)aryl may be optionally substituted with one or more substituents selected from the group consisting of (C₁-C₈)alkyl, halo, hydroxy, (C₁-C₈)alkoxy, amino, (C₁-C₈)alkylamino, di(C₁-C₈)alkylamino, SH, (C₁-C₈)alkylthio, (C₃-C₈)heterocyclyl, carboxylate and esters thereof, carboxy(C₁-C₈)alkyl, CONHR^{C56} and CONR^{C56}R^{C57}, wherein R^{C56} and R^{C57}, which may be the same or different, are independently selected from (C₁-C₈)alkyl, (C₁-C₈)alkylene(C₆-C₁₀)aryl or (C₆-C₁₀)aryl;

R^{C53} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl;

R^{C54} and R^{C55} are each independently selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl; or

J is selected from the group consisting of (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₃-C₈)heterocyclyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl; wherein each (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₃-C₈)heterocyclyl, (C₆-C₁₀)aryl or (C₁-C₈)alkylene(C₆-C₁₀)aryl may be optionally substituted with one or more substituents selected from the group consisting of (C₁-C₈)alkyl, halo, hydroxy, (C₁-C₈)alkoxy, amino, (C₁-C₈)alkylamino, di(C₁-C₈)alkylamino, SH, (C₁-C₈)alkylthio, (C₃-C₈)heterocyclyl, carboxylate and esters thereof, carboxy(C₁-C₈)alkyl, CONHR^{C46} and CONR^{C46}R^{C47}, wherein R^{C46} and R^{C47}, which may be the same or different, are independently selected from (C₁-C₈)alkyl, (C₁-C₈)alkylene(C₆-C₁₀)aryl or (C₆-C₁₀)aryl;

wherein:

 is a double bond; V² is absent when  is a double bond; V¹ is R^{V11}—C when 

is a double bond;

G is NR^{G70}, O, S or CR^{G71}R^{G72};

Q is a connector unit;

R^{V11} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl;

R^{G70} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl;

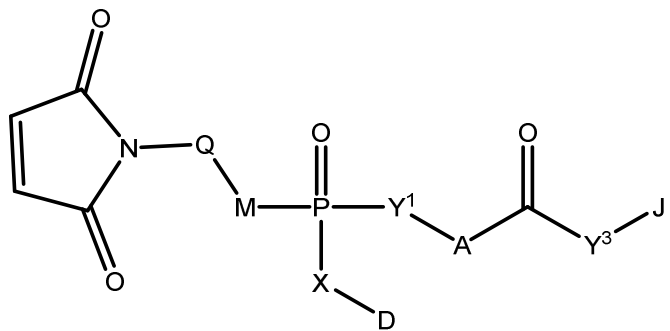
R^{G71} and R^{G72} are each independently selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl;

R⁸⁰ is an optionally substituted aliphatic residue or an optionally substituted aromatic residue;

n is an integer ranging from 1 to 20.

12. A method of preparing a conjugate, said method comprising:

reacting a compound of formula:



or a pharmaceutically acceptable salt or solvate thereof;

wherein:

M is O, NR^{M60} , or S;

R^{M60} is selected from the group consisting of hydrogen, $(\text{C}_1\text{-C}_8)\text{alkyl}$, $(\text{C}_6\text{-C}_{10})\text{aryl}$, and $(\text{C}_1\text{-C}_8)\text{alkylene}(\text{C}_6\text{-C}_{10})\text{aryl}$;

X is O, S, or NR^{X10} ;

R^{X10} is hydrogen; or an optionally substituted aliphatic residue or an optionally substituted aromatic residue;

D is a drug moiety;

Y^1 is NR^{A20} or O;

R^{A20} is selected from the group consisting of hydrogen, $(\text{C}_1\text{-C}_8)\text{alkyl}$, $(\text{C}_6\text{-C}_{10})\text{aryl}$, and $(\text{C}_1\text{-C}_8)\text{alkylene}(\text{C}_6\text{-C}_{10})\text{aryl}$;

Q is a connector unit;

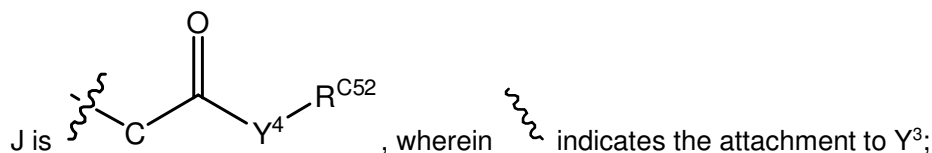
A is $\text{CR}^{\text{A30}}\text{R}^{\text{A31}}$;

R^{A30} and R^{A31} are each independently selected from the group consisting of hydrogen, $(\text{C}_1\text{-C}_8)\text{alkyl}$, $(\text{C}_3\text{-C}_8)\text{cycloalkyl}$, $(\text{C}_2\text{-C}_8)\text{alkenyl}$, $(\text{C}_5\text{-C}_8)\text{cycloalkenyl}$, $(\text{C}_6\text{-C}_{10})\text{aryl}$, and $(\text{C}_1\text{-C}_8)\text{alkylene}(\text{C}_6\text{-C}_{10})\text{aryl}$; wherein each $(\text{C}_1\text{-C}_8)\text{alkyl}$, $(\text{C}_3\text{-C}_8)\text{cycloalkyl}$, $(\text{C}_2\text{-C}_8)\text{alkenyl}$, $(\text{C}_5\text{-C}_8)\text{cycloalkenyl}$, $(\text{C}_6\text{-C}_{10})\text{aryl}$, and $(\text{C}_1\text{-C}_8)\text{alkylene}(\text{C}_6\text{-C}_{10})\text{aryl}$ is optionally substituted with one or more substituents.

C₈cycloalkenyl, (C₆-C₁₀)aryl or (C₁-C₈)alkylene(C₆-C₁₀)aryl may be optionally substituted with one or more substituents selected from the group consisting of (C₁-C₈)alkyl, halo, hydroxy, (C₁-C₈)alkoxy, amino, (C₁-C₈)alkylamino, di(C₁-C₈)alkylamino, SH, (C₁-C₈)alkylthio, (C₃-C₈)heterocyclyl, carboxylate and esters thereof, carboxy(C₁-C₈)alkyl, CONHR^{A36} and CONR^{A36}R^{A37}, wherein R^{A36} and R^{A37}, which may be the same or different, are independently selected from (C₁-C₈)alkyl, (C₁-C₈)alkylene(C₆-C₁₀)aryl or (C₆-C₁₀)aryl; optionally R^{A30} and R^{A31} can together form a 3 to 8-membered ring;

Y³ is O, NR^{C40}, S, or absent;

R^{C40} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl;



C is CR^{C50}R^{C51}; or

C is (C₁-C₈)alkylene, wherein the (C₁-C₈)alkylene may be optionally substituted with one or more substituents selected from the group consisting of (C₁-C₈)alkyl, halo, hydroxy, (C₁-C₈)alkoxy, amino, (C₁-C₈)alkylamino, di(C₁-C₈)alkylamino, SH, (C₁-C₈)alkylthio, (C₃-C₈)heterocyclyl, carboxylate and esters thereof, carboxy(C₁-C₈)alkyl, CONHR^{C36} and CONR^{C36}R^{C37}, wherein R^{C36} and R^{C37}, which may be the same or different, are independently selected from (C₁-C₈)alkyl, (C₁-C₈)alkylene(C₆-C₁₀)aryl or (C₆-C₁₀)aryl;

R^{C50} and R^{C51} are each independently selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl; wherein each (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₆-C₁₀)aryl or (C₁-C₈)alkylene(C₆-C₁₀)aryl may be optionally substituted with one or more substituents selected from the group consisting of (C₁-C₈)alkyl, halo, hydroxy, (C₁-C₈)alkoxy, amino, (C₁-C₈)alkylamino, di(C₁-C₈)alkylamino, SH, (C₁-C₈)alkylthio, (C₃-C₈)heterocyclyl, carboxylate and esters thereof, carboxy(C₁-C₈)alkyl, CONHR^{C36} and CONR^{C36}R^{C37}, wherein R^{C36} and R^{C37}, which may be the same or different, are independently selected from (C₁-C₈)alkyl, (C₁-C₈)alkylene(C₆-C₁₀)aryl or (C₆-C₁₀)aryl; optionally R^{C50} and R^{C51} can together form a 3 to 8-membered ring;

Y⁴ is O, NR^{C53}, S, CR^{C54}R^{C55}, or absent;

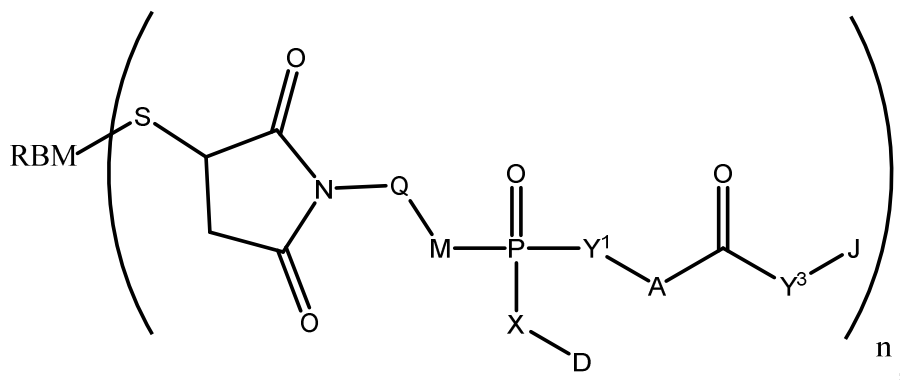
R^{C52} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₃-C₈)heterocyclyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl; wherein each (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₃-C₈)heterocyclyl, (C₆-C₁₀)aryl or (C₁-C₈)alkylene(C₆-C₁₀)aryl may be optionally substituted with one or more substituents selected from the group consisting of (C₁-C₈)alkyl, halo, hydroxy, (C₁-C₈)alkoxy, amino, (C₁-C₈)alkylamino, di(C₁-C₈)alkylamino, SH, (C₁-C₈)alkylthio, (C₃-C₈)heterocyclyl, carboxylate and esters thereof, carboxy(C₁-C₈)alkyl, CONHR^{C56} and CONR^{C56}R^{C57}, wherein R^{C56} and R^{C57}, which may be the same or different, are independently selected from (C₁-C₈)alkyl, (C₁-C₈)alkylene(C₆-C₁₀)aryl or (C₆-C₁₀)aryl;

R^{C53} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl;

R^{C54} and R^{C55} are each independently selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl; or

J is selected from the group consisting of (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₃-C₈)heterocyclyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl; wherein each (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₃-C₈)heterocyclyl, (C₆-C₁₀)aryl or (C₁-C₈)alkylene(C₆-C₁₀)aryl may be optionally substituted with one or more substituents selected from the group consisting of (C₁-C₈)alkyl, halo, hydroxy, (C₁-C₈)alkoxy, amino, (C₁-C₈)alkylamino, di(C₁-C₈)alkylamino, SH, (C₁-C₈)alkylthio, (C₃-C₈)heterocyclyl, carboxylate and esters thereof, carboxy(C₁-C₈)alkyl, CONHR^{C46} and CONR^{C46}R^{C47}, wherein R^{C46} and R^{C47}, which may be the same or different, are independently selected from (C₁-C₈)alkyl, (C₁-C₈)alkylene(C₆-C₁₀)aryl or (C₆-C₁₀)aryl;

with a receptor binding molecule (RBM) having a thiol group reactive towards the double bond of the maleimide of the compound, thereby forming a covalent bond between the receptor binding molecule (RBM) and the maleimide of the compound to result in a conjugate of formula:



or a pharmaceutically acceptable salt or solvate thereof;

wherein:

RBM is a receptor binding molecule; wherein the receptor binding molecule is an antibody,

M is O, NR^{M60} , or S;

R^{M60} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl;

X is O, S, or NR^{X10} ;

R^{X10} is hydrogen; or an optionally substituted aliphatic residue or an optionally substituted aromatic residue;

D is a drug moiety;

Y^1 is NR^{A20} or O;

R^{A20} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl;

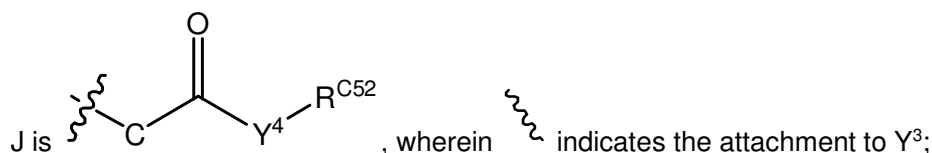
Q is a connector unit;

A is $\text{CR}^{\text{A30}}\text{R}^{\text{A31}}$;

R^{A30} and R^{A31} are each independently selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl; wherein each (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₆-C₁₀)aryl or (C₁-C₈)alkylene(C₆-C₁₀)aryl may be optionally substituted with one or more substituents selected from the group consisting of (C₁-C₈)alkyl, halo, hydroxy, (C₁-C₈)alkoxy, amino, (C₁-C₈)alkylamino, di(C₁-C₈)alkylamino, SH, (C₁-C₈)alkylthio, (C₃-C₈)heterocyclyl, carboxylate and esters thereof, carboxy(C₁-C₈)alkyl, $\text{CONHR}^{\text{A36}}$ and $\text{CONR}^{\text{A36}}\text{R}^{\text{A37}}$, wherein R^{A36} and R^{A37} , which may be the same or different, are independently selected from (C₁-C₈)alkyl, (C₁-C₈)alkylene(C₆-C₁₀)aryl or (C₆-C₁₀)aryl; optionally R^{A30} and R^{A31} can together form a 3 to 8-membered ring;

Y^3 is O, NR^{C40} , S, or absent;

R^{C40} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl;



C is $CR^{C50}R^{C51}$; or

C is (C₁-C₈)alkylene, wherein the (C₁-C₈)alkylene may be optionally substituted with one or more substituents selected from the group consisting of (C₁-C₈)alkyl, halo, hydroxy, (C₁-C₈)alkoxy, amino, (C₁-C₈)alkylamino, di(C₁-C₈)alkylamino, SH, (C₁-C₈)alkylthio, (C₃-C₈)heterocyclyl, carboxylate and esters thereof, carboxy(C₁-C₈)alkyl, $CONHR^{C36}$ and $CONR^{C36}R^{C37}$, wherein R^{C36} and R^{C37} , which may be the same or different, are independently selected from (C₁-C₈)alkyl, (C₁-C₈)alkylene(C₆-C₁₀)aryl or (C₆-C₁₀)aryl;

R^{C50} and R^{C51} are each independently selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl; wherein each (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₆-C₁₀)aryl or (C₁-C₈)alkylene(C₆-C₁₀)aryl may be optionally substituted with one or more substituents selected from the group consisting of (C₁-C₈)alkyl, halo, hydroxy, (C₁-C₈)alkoxy, amino, (C₁-C₈)alkylamino, di(C₁-C₈)alkylamino, SH, (C₁-C₈)alkylthio, (C₃-C₈)heterocyclyl, carboxylate and esters thereof, carboxy(C₁-C₈)alkyl, $CONHR^{C36}$ and $CONR^{C36}R^{C37}$, wherein R^{C36} and R^{C37} , which may be the same or different, are independently selected from (C₁-C₈)alkyl, (C₁-C₈)alkylene(C₆-C₁₀)aryl or (C₆-C₁₀)aryl; optionally R^{C50} and R^{C51} can together form a 3 to 8-membered ring;

Y^4 is O, NR^{C53} , S, $CR^{C54}R^{C55}$, or absent;

R^{C52} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₃-C₈)heterocyclyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl; wherein each (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₃-C₈)heterocyclyl, (C₆-C₁₀)aryl or (C₁-C₈)alkylene(C₆-C₁₀)aryl may be optionally substituted with

one or more substituents selected from the group consisting of (C₁-C₈)alkyl, halo, hydroxy, (C₁-C₈)alkoxy, amino, (C₁-C₈)alkylamino, di(C₁-C₈)alkylamino, SH, (C₁-C₈)alkylthio, (C₃-C₈)heterocyclyl, carboxylate and esters thereof, carboxy(C₁-C₈)alkyl, CONHR^{C56} and CONR^{C56}R^{C57}, wherein R^{C56} and R^{C57}, which may be the same or different, are independently selected from (C₁-C₈)alkyl, (C₁-C₈)alkylene(C₆-C₁₀)aryl or (C₆-C₁₀)aryl;

R^{C53} is selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl;

R^{C54} and R^{C55} are each independently selected from the group consisting of hydrogen, (C₁-C₈)alkyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl; or

J is selected from the group consisting of (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₃-C₈)heterocyclyl, (C₆-C₁₀)aryl, and (C₁-C₈)alkylene(C₆-C₁₀)aryl; wherein each (C₁-C₈)alkyl, (C₃-C₈)cycloalkyl, (C₂-C₈)alkenyl, (C₅-C₈)cycloalkenyl, (C₃-C₈)heterocyclyl, (C₆-C₁₀)aryl or (C₁-C₈)alkylene(C₆-C₁₀)aryl may be optionally substituted with one or more substituents selected from the group consisting of (C₁-C₈)alkyl, halo, hydroxy, (C₁-C₈)alkoxy, amino, (C₁-C₈)alkylamino, di(C₁-C₈)alkylamino, SH, (C₁-C₈)alkylthio, (C₃-C₈)heterocyclyl, carboxylate and esters thereof, carboxy(C₁-C₈)alkyl, CONHR^{C46} and CONR^{C46}R^{C47}, wherein R^{C46} and R^{C47}, which may be the same or different, are independently selected from (C₁-C₈)alkyl, (C₁-C₈)alkylene(C₆-C₁₀)aryl or (C₆-C₁₀)aryl;

n is an integer ranging from 1 to 20.

13. The method of claim 11 or 12, wherein RBM, V¹, V², , , R⁸⁰, G, Q, M, X, D, Y¹, A, Y³, J, m and n are as defined in any one of the preceding claims.

14. A pharmaceutical composition comprising a conjugate of any one of claims 1 to 7.

15. The pharmaceutical composition of claim 14, further comprising one or more pharmaceutically acceptable carrier(s) and/or stabilizer(s) and/or excipient(s).

16. A conjugate of any one of claims 1 to 7, for use in the manufacture of a medicament for treating a disease.

17. A conjugate of any one of claims 1 to 7, for use as a medicament.

18. The conjugate for use as in claim 16 or 17, wherein the disease is cancer.