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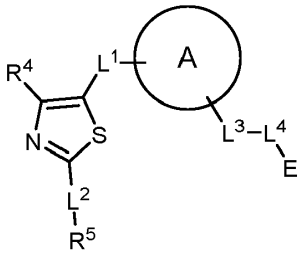
(54) Title **COMPOUNDS AND METHODS FOR MODULATING INTERLEUKIN-2-INDUCIBLE T-CELL KINASE**

(56) References Cited:

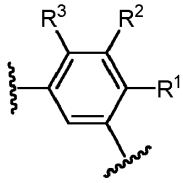
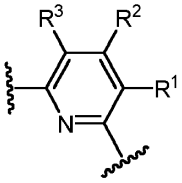
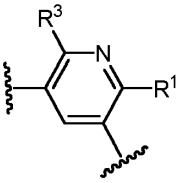
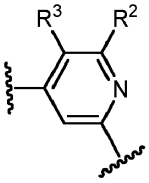
US-A1- 2005 176 789
US-A1- 2010 179 121
US-A1- 2003 069 290
US-A1- 2010 113 520
US-B2- 6 706 717
WO-A2-2017/044858
CN-A- 105 884 711
WO-A1-2014/117292

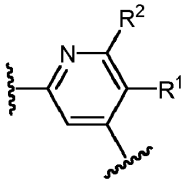
Patentkrav

1. Forbindelse eller et farmasøytisk akseptabelt salt derav, som har formelen:



hvori,

ring A er  ,  ,  ,  ,



eller ;

R^1 er uavhengig $-OR^{1D}$, hydrogen, halogen, $-CX^1_3$, $-CHX^1_2$, $-CH_2X^1$, $-OCX^1_3$, $-OCH_2X^1$, $-OCHX^1_2$, -CN, $-SO_{n1}R^{1D}$, $-SO_{v1}NR^{1A}R^{1B}$, $-NHC(O)NR^{1A}R^{1B}$, $-N(O)_{m1}$, $-NR^{1A}R^{1B}$,

$-C(O)R^{1C}$, $-C(O)-OR^{1C}$, $-C(O)NR^{1A}R^{1B}$, $-NR^{1A}SO_2R^{1D}$, $-NR^{1A}C(O)R^{1C}$, $-NR^{1A}C(O)OR^{1C}$,

$-NR^{1A}OR^{1C}$, substituert eller usubstituert alkyl, substituert eller usubstituert heteroalkyl, substituert eller usubstituert sykloalkyl, substituert eller usubstituert heterosykloalkyl, substituert eller usubstituert aryl eller substituert eller usubstituert heteroaryl;

R^2 er uavhengig hydrogen, halogen, $-CX^2_3$, $-CHX^2_2$, $-CH_2X^2$, $-OCX^2_3$, $-OCH_2X^2$, $-OCHX^2_2$, -CN, $-SO_{n2}R^{2D}$, $-SO_{v2}NR^{2A}R^{2B}$, $-NHC(O)NR^{2A}R^{2B}$, $-N(O)_{m2}$, $-NR^{2A}R^{2B}$, $-C(O)R^{2C}$,

$-C(O)-OR^{2C}$, $-C(O)NR^{2A}R^{2B}$, $-OR^{2D}$, $-NR^{2A}SO_2R^{2D}$, $-NR^{2A}C(O)R^{2C}$, $-NR^{2A}C(O)OR^{2C}$, $-NR^{2A}OR^{2C}$, substituert eller usubstituert alkyl, substituert eller usubstituert heteroalkyl, substituert eller usubstituert sykloalkyl, substituert eller usubstituert heterosykloalkyl, substituert eller usubstituert aryl eller substituert eller usubstituert heteroaryl;

R^3 er uavhengig usubstituert eller substituert alkyl, hydrogen, halogen, $-CX^3_3$, $-CHX^3_2$, $-CH_2X^3$, $-OCX^3_3$, $-OCH_2X^3$, $-OCHX^3_2$, -CN, $-SO_{n3}R^{3D}$, $-SO_{v3}NR^{3A}R^{3B}$, $-NHC(O)NR^{3A}R^{3B}$, $-N(O)_{m3}$, $-NR^{3A}R^{3B}$, $-C(O)R^{3C}$, $-C(O)-OR^{3C}$, $-C(O)NR^{3A}R^{3B}$, $-OR^{3D}$, $-NR^{3A}SO_2R^{3D}$, $-NR^{3A}C(O)R^{3C}$, $-NR^{3A}C(O)OR^{3C}$, $-NR^{3A}OR^{3C}$, substituert eller usubstituert heteroalkyl, substituert eller usubstituert sykloalkyl, substituert eller usubstituert heterosykloalkyl, substituert eller usubstituert aryl eller substituert eller usubstituert heteroaryl;

R^4 er uavhengig hydrogen, halogen, $-CX^4_3$, $-CHX^4_2$, $-CH_2X^4$, $-OCX^4_3$, $-OCH_2X^4$, $-OCHX^4_2$, -CN, $-SO_{n4}R^{4D}$, $-SO_{v4}NR^{4A}R^{4B}$, $-NHC(O)NR^{4A}R^{4B}$, $-N(O)_{m4}$, $-NR^{4A}R^{4B}$, $-C(O)R^{4C}$,

$-C(O)-OR^{4C}$, $-C(O)NR^{4A}R^{4B}$, $-OR^{4D}$, $-NR^{4A}SO_2R^{4D}$, $-NR^{4A}C(O)R^{4C}$, $-NR^{4A}C(O)O\ R^{4C}$, $-NR^{4A}OR^{4C}$, substituert eller usubstituert alkyl, substituert eller usubstituert heteroalkyl, substituert eller usubstituert sykloalkyl, substituert eller usubstituert heterosykloalkyl, substituert eller usubstituert aryl eller substituert eller usubstituert heteroaryl;

R^5 er uavhengig usubstituert eller substituert sykloalkyl, substituert eller usubstituert alkyl, substituert eller usubstituert heteroalkyl, substituert eller usubstituert heterosykloalkyl, substituert eller usubstituert aryl eller substituert eller usubstituert heteroaryl;

L^1 er -S-, -O- eller substituert eller usubstituert C_1-C_2alkylen eller substituert eller usubstituert 2-leddet heteroalkylen;

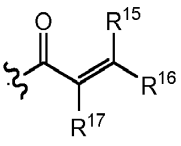
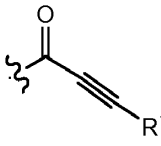
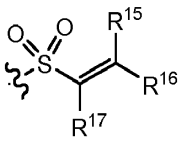
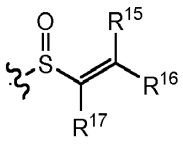
L^2 er -NHC(O)-, en binding eller -NH-;

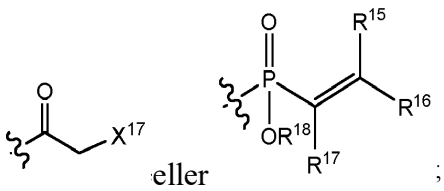
L^3 er -C(O)-, en

binding, $-S(O)_2$-, $-N(R^6)$-, -O-, -S-, $-C(O)N(R^6)$-, $-N(R^6)C(O)$-, $-N(R^6)C(O)NH$-, $-NHC(O)N(R^6)$-, -C(O)O-, -OC(O)-, substituert eller usubstituert alkylen, substituert eller usubstituert heteroalkylen, substituert eller usubstituert sykloalkylen, substituert eller usubstituert heterosykloalkylen, substituert eller usubstituert arylen eller substituert eller usubstituert heteroarylen;

R^6 er uavhengig hydrogen, $-CX^6_3$, $-CHX^6_2$, $-CH_2X^6$, -CN, $-C(O)R^{6C}$, $-C(O)OR^{6C}$, $-C(O)NR^{6A}R^{6B}$, substituert eller usubstituert alkyl, substituert eller usubstituert heteroalkyl, substituert eller usubstituert sykloalkyl, substituert eller usubstituert heterosykloalkyl, substituert eller usubstituert aryl eller substituert eller usubstituert heteroaryl;

L^4 er substituert eller usubstituert heterosykloalkylen;

E er  ,  ,  ,  ,


eller ;

R^{15} er uavhengig hydrogen, halogen, $-CX^{15}_3$, $-CHX^{15}_2$, $-CH_2X^{15}$, -CN, $-SO_{n15}R^{15D}$, $-SO_{v15}NR^{15A}R^{15B}$, $-NHNR^{15A}R^{15B}$, $-ONR^{15A}R^{15B}$, $-NHC=(O)NHNR^{15A}R^{15B}$, $-NHC(O)NR^{15A}R^{15B}$, $-N(O)_{m15}$, $-NR^{15A}R^{15B}$, $-C(O)R^{15C}$, $-C(O)-OR^{15C}$, $-C(O)NR^{15A}R^{15B}$, $-OR^{15D}$, $-NR^{15A}SO_2R^{15D}$, $-NR^{15A}C(O)R^{15C}$, $-NR^{15A}C(O)OR^{15C}$, $-NR^{15A}OR^{15C}$, $-OCX^{15}_3$, $-OCHX^{15}_2$, substituert eller usubstituert alkyl, substituert eller usubstituert heteroalkyl, substituert eller usubstituert sykloalkyl, substituert eller usubstituert heterosykloalkyl, substituert eller usubstituert aryl, substituert eller usubstituert heteroaryl;

R^{16} er uavhengig hydrogen, halogen, $-CX^{16}_3$, $-CHX^{16}_2$, $-CH_2X^{16}$, -CN, $-SO_{n16}R^{16D}$, $-SO_{v16}NR^{16A}R^{16B}$, $-NHNR^{16A}R^{16B}$, $-ONR^{16A}R^{16B}$, $-NHC=(O)NHNR^{16A}R^{16B}$, $-NHC(O)NR^{16A}R^{16B}$, $-N(O)_{m16}$, $-NR^{16A}R^{16B}$, $-C(O)R^{16C}$, $-C(O)-OR^{16C}$, $-C(O)NR^{16A}R^{16B}$, $-OR^{16D}$, $-NR^{16A}SO_2R^{16D}$, $-NR^{16A}C(O)R^{16C}$, $-NR^{16A}C(O)OR^{16C}$, $-NR^{16A}OR^{16C}$, $-OCX^{16}_3$, $-OCHX^{16}_2$, substituert eller usubstituert alkyl, substituert eller usubstituert heteroalkyl, substituert eller usubstituert sykloalkyl, substituert eller usubstituert heterosykloalkyl, substituert eller usubstituert aryl, substituert eller usubstituert heteroaryl;

R^{17} er uavhengig hydrogen, halogen, $-CX^{17}_3$, $-CHX^{17}_2$, $-CH_2X^{17}$, -CN, $-SO_{n17}R^{17D}$, $-SO_{v17}NR^{17A}R^{17B}$, $-NHNR^{17A}R^{17B}$, $-ONR^{17A}R^{17B}$, $-NHC=(O)NHNR^{17A}R^{17B}$, $-NHC(O)NR^{17A}R^{17B}$, $-N(O)_{m17}$, $-NR^{17A}R^{17B}$, $-C(O)R^{17C}$, $-C(O)-OR^{17C}$, $-C(O)NR^{17A}R^{17B}$, $-OR^{17D}$, $-NR^{17A}SO_2R^{17D}$, $-NR^{17A}C(O)R^{17C}$, $-NR^{17A}C(O)OR^{17C}$, $-NR^{17A}OR^{17C}$, $-OCX^{17}_3$, $-OCHX^{17}_2$, substituert eller usubstituert alkyl, substituert eller usubstituert heteroalkyl, substituert eller usubstituert sykloalkyl, substituert eller usubstituert heterosykloalkyl, substituert eller usubstituert aryl, substituert eller usubstituert heteroaryl;

R^{18} er uavhengig hydrogen, $-CX^{18}_3$, $-CHX^{18}_2$, $-CH_2X^{18}$, $-C(O)R^{18C}$, $-C(O)OR^{18C}$, $-C(O)NR^{18A}R^{18B}$, substituert eller usubstituert alkyl, substituert eller usubstituert heteroalkyl, substituert eller usubstituert sykloalkyl, substituert eller usubstituert heterosykloalkyl, substituert eller usubstituert aryl, substituert eller usubstituert heteroaryl;

hver R^{1A}, R^{1B}, R^{1C}, R^{1D}, R^{2A}, R^{2B}, R^{2C}, R^{2D}, R^{3A}, R^{3B}, R^{3C}, R^{3D}, R^{4A}, R^{4B}, R^{4C}, R^{4D}, R^{6A}, R^{6B} og R^{6C} er uavhengig usubstituert eller substituert alkyl, hydrogen, $-CX_3$, -CN, -COOH, $-CONH_2$, $-CHX_2$, $-CH_2X$, substituert eller usubstituert heteroalkyl, substituert eller usubstituert sykloalkyl, substituert eller usubstituert heterosykloalkyl, substituert eller usubstituert aryl eller substituert eller usubstituert heteroaryl;

R^{1A}- og R^{1B}-substituenter bundet til det samme nitrogenatomet kan eventuelt være forbundet for å danne et substituert eller usubstituert heterosykloalkyl eller substituert eller usubstituert heteroaryl; R^{2A}- og R^{2B}-substituenter bundet til det samme nitrogenatomet kan eventuelt være forbundet for å danne et substituert eller usubstituert heterosykloalkyl eller substituert eller usubstituert heteroaryl; R^{3A}- og R^{3B}-substituenter bundet til det samme nitrogenatomet kan eventuelt være forbundet for å danne et substituert eller usubstituert heterosykloalkyl eller substituert eller usubstituert heteroaryl; R^{4A}- og R^{4B}-substituenter bundet til det samme nitrogenatomet kan eventuelt være forbundet for å danne et substituert eller usubstituert heterosykloalkyl eller substituert eller usubstituert heteroaryl; R^{6A}- og R^{6B}-substituenter bundet til det samme nitrogenatomet kan eventuelt være forbundet for å danne et substituert eller usubstituert heterosykloalkyl eller substituert eller usubstituert heteroaryl;

R^{15A}, R^{15B}, R^{15C}, R^{15D}, R^{16A}, R^{16B}, R^{16C}, R^{16D}, R^{17A}, R^{17B}, R^{17C}, R^{17D}, R^{18A}, R^{18B}, R^{18C}, R^{18D}, er uavhengig hydrogen, $-CX_3$, -CN, -COOH, $-CONH_2$, $-CHX_2$, $-CH_2X$, substituert eller usubstituert alkyl, substituert eller usubstituert heteroalkyl, substituert eller usubstituert sykloalkyl, substituert eller usubstituert heterosykloalkyl, substituert eller usubstituert aryl eller substituert eller usubstituert heteroaryl; R^{15A}- og R^{15B}-substituenter bundet til det samme nitrogenatomet kan eventuelt være forbundet for å danne et substituert eller usubstituert heterosykloalkyl eller substituert eller usubstituert heteroaryl; R^{16A}- og R^{16B}-substituenter bundet til det samme nitrogenatomet kan eventuelt være forbundet for å danne et substituert eller usubstituert heterosykloalkyl eller substituert eller usubstituert heteroaryl; R^{17A}- og R^{17B}-substituenter bundet til det samme nitrogenatomet kan eventuelt være forbundet for å danne et substituert eller usubstituert heterosykloalkyl eller substituert eller usubstituert heteroaryl; R^{18A}- og R^{18B}-substituenter bundet til det samme nitrogenatomet kan eventuelt være forbundet for å danne et substituert eller usubstituert heterosykloalkyl eller substituert eller usubstituert heteroaryl;

hver X, X^1, X^2, X^3, X^4, X^6, X^{15}, X^{16}, X^{17} og X^{18} er uavhengig -F, -Cl, -Br eller -I;

n1, n2, n3, n4, n15, n16 og n17, er uavhengig et heltall fra 0 til 4; og

m1, m2, m3, m4, m15, m16, m17, v1, v2, v3, v4, v15, v16 og v17 er uavhengig 1 eller 2.

2. Forbindelsen ifølge krav **1**, hvori:

(i) L^1 er -S-, -O- eller substituert eller usubstituert metylen; eller

(ii) L^1 er $-SCH_2-$; eller

(iii) L^1 er $-CH(CH_3)-$.

3. Forbindelsen ifølge krav **1** eller 2, hvori:

(i) L^2 er -NHC(O)-; eller

(ii) L^2 er -NH-; eller

(iii) L^2 er en binding.

4. Forbindelsen ifølge et hvilket som helst av kravene 1 til 3, hvori R^4 er hydrogen.

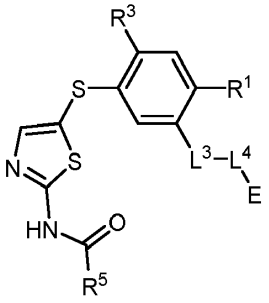
5. Forbindelsen ifølge et hvilket som helst av kravene **1** til 4, hvori:

(i) R^2 er hydrogen; eller

(ii) R^2 er usubstituert C_1-C_2alkyl; eller

(iii) R^2 er usubstituert metyl.

6. Forbindelsen ifølge krav **1**, som har formelen:



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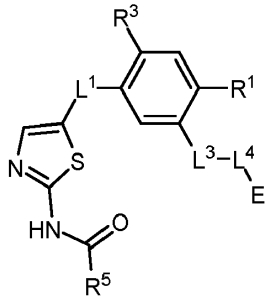

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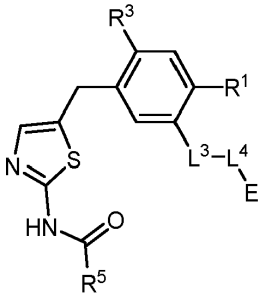
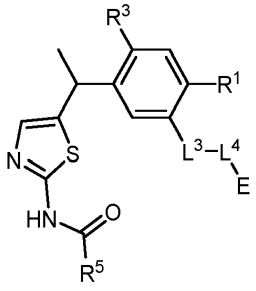
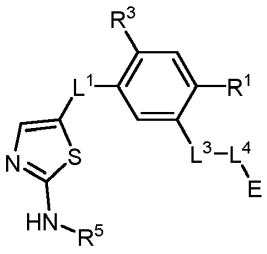


(IIB) eller



(IIC).

7. Forbindelsen ifølge krav **1**, som har formelen: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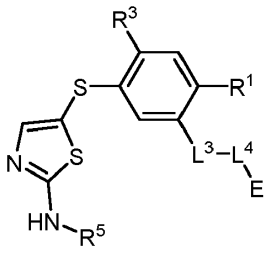
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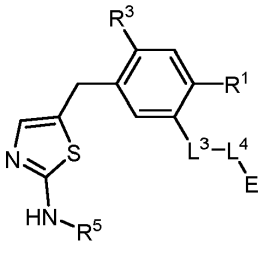
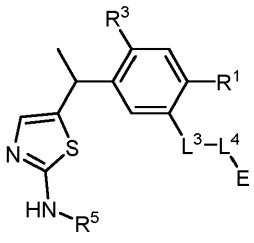

(IIIB), eller

(IIIC).

8. Forbindelsen ifølge et hvilket som helst av kravene 1 til 7, hvori:

(i) R^1 er uavhengig hydrogen, halogen, $-CX^1_3$, $-CHX^1_2$, $-CH_2X^1$, $-OCX^1_3$, $-OCH_2X^1$, $-OCHX^1_2$, substituert eller usubstituert alkyl eller substituert eller usubstituert heteroalkyl; eller

(ii) R^1 er uavhengig hydrogen, halogen, $-CX^1_3$, $-CHX^1_2$, $-CH_2X^1$, $-OCX^1_3$, $-OCH_2X^1$, $-OCHX^1_2$, substituert eller usubstituert $(C_1\text{-}C_4)$alkyl eller substituert eller usubstituert 2- til 4-leddet heteroalkyl; eller

(iii) R^1 er hydrogen,

halogen, $-CH_3$, $-CH_2CH_3$, $-CX^1_3$, $-CHX^1_2$, $-CH_2X^1$, $-OCH_3$, $-OCX^1_3$, $-OCH_2X^1$, $-OCHX^1_2$, $-SCH_3$, $-SCX^1_3$, $-SCH_2X^1$ eller $-SCHX^1_2$.

9. Forbindelsen ifølge et hvilket som helst av kravene 1 til 8, hvori:

(i) R^3 er uavhengig hydrogen, halogen, $-CX^3_3$, $-CHX^3_2$, $-CH_2X^3$, $-OCX^3_3$, $-OCH_2X^3$, $-OCHX^3_2$, -CN, substituert eller usubstituert alkyl eller substituert eller usubstituert heteroalkyl; eller

(ii) R^3 er uavhengig hydrogen, halogen, $-CX^3_3$, $-CHX^3_2$, $-CH_2X^3$, $-OCX^3_3$, $-OCH_2X^3$, $-OCHX^3_2$, -CN, substituert eller usubstituert $(C_1\text{-}C_4)$alkyl eller substituert eller usubstituert 2- til 4-leddet heteroalkyl; eller

(iii) R^3 er hydrogen,

halogen, $-CH_3$, $-CH_2CH_3$, $-CX^3_3$, $-CHX^3_2$, $-CH_2X^3$, $-OCH_3$, $-OCX^3_3$, $-OCH_2X^3$, $-OCHX^3_2$, -CN, $-SCH_3$, $-SCX^3_3$, $-SCH_2X^3$ eller $-SCHX^3_2$.

10. Forbindelsen ifølge et hvilket som helst av kravene 1 til 9, hvori:

(i) R^5 er uavhengig substituert eller usubstituert (C_1-C_8)alkyl, substituert eller usubstituert 2- til 8-leddet heteroalkyl, substituert eller usubstituert (C_3-C_6)sykloalkyl, substituert eller usubstituert 3- til 6-leddet heterosykloalkyl, substituert eller usubstituert fenyl eller substituert eller usubstituert 5- til 6-leddet heteroaryl; eller

(ii) R^5 er uavhengig substituert eller usubstituert (C_1-C_4)alkyl; eller

(iii) R^5 er uavhengig usubstituert (C_1-C_4)alkyl; eller

(iv) R^5 er uavhengig usubstituert metyl, usubstituert etyl, usubstituert isopropyl eller usubstituert tert-butyl; eller

(v) R^5 er uavhengig usubstituert metyl eller usubstituert etyl; eller

(vi) R^5 er uavhengig substituert eller usubstituert 2- til 8-leddet heteroalkyl; eller

(vii) R^5 er uavhengig substituert eller usubstituert 2- til 4-leddet heteroalkyl; eller

(viii) R^5 er uavhengig usubstituert 2- til 4-leddet heteroalkyl; eller

(ix) R^5 er uavhengig $-CH_2N(CH_3)_2$; eller

(x) R^5 er uavhengig substituert eller usubstituert (C_3-C_6)sykloalkyl; eller

(xi) R^5 er uavhengig usubstituert (C_3-C_6)sykloalkyl; eller

(xii) R^5 er uavhengig usubstituert syklopropyl, usubstituert syklobutyl eller usubstituert syklopentyl; eller

(xiii) R^5 er uavhengig usubstituert syklopropyl eller usubstituert syklobutyl; eller

(xiv) R^5 er uavhengig usubstituert syklopropyl; eller

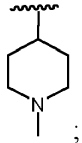
(xv) R^5 er uavhengig substituert eller usubstituert 3- til 6-leddet heterosykloalkyl; eller

(xvi) R^5 er uavhengig substituert eller usubstituert 5- til 6-leddet heterosykloalkyl; eller

(xvii) R^5 er uavhengig substituert eller usubstituert 6-leddet heterosykloalkyl; eller

(xviii) R^5 er uavhengig substituert eller usubstituert piperidinyl; eller

(xix) R^5 er uavhengig



; eller

(xx) R^5 er uavhengig substituert eller usubstituert fenyl; eller

(xxi) R^5 er uavhengig usubstituert fenyl; eller

(xxii) R^5 er uavhengig 2-substituert fenyl; eller

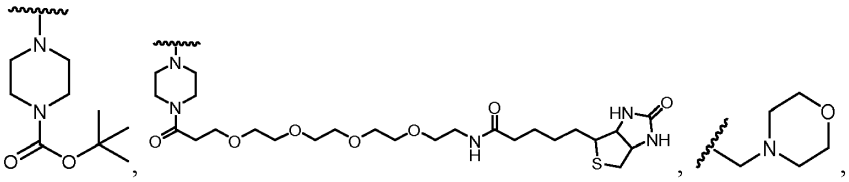
(xxiii) R^5 er uavhengig 3-substituert fenyl; eller

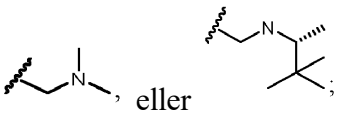
(xxiv) R^5 er uavhengig 4-substituert fenyl; eller

(xxv) R^5 er uavhengig fenyl substituert med halogen, substituert eller usubstituert alkyl, substituert eller usubstituert heteroalkyl, substituert eller usubstituert sykloalkyl, substituert eller usubstituert heterosykloalkyl, substituert eller usubstituert aryl eller substituert eller usubstituert heteroaryl; eller

(xxvi) R^5 er uavhengig fenyl substituert med halogen, substituert eller usubstituert (C_1-C_8)alkyl, substituert eller usubstituert 2- til 8-leddet heteroalkyl, substituert eller usubstituert (C_3-C_6)sykloalkyl, substituert eller usubstituert 3- til 6-leddet heterosykloalkyl, substituert eller usubstituert fenyl eller substituert eller usubstituert 5- til 6-leddet heteroaryl; eller

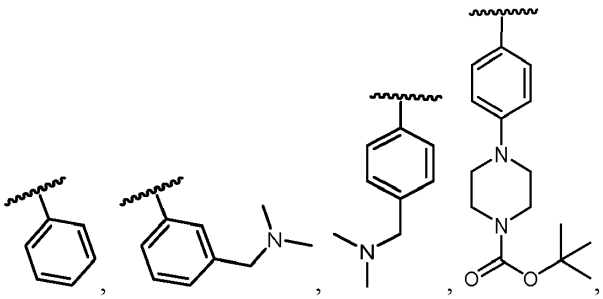
(xxvii) R^5 er uavhengig fenyl substituert med -F,

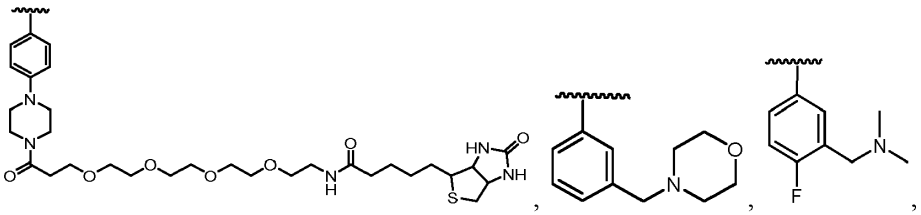




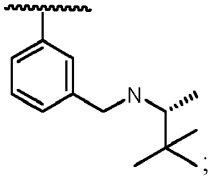
eller eller

(xxviii) R^5 er uavhengig



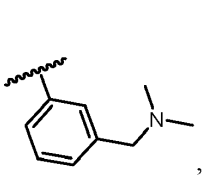
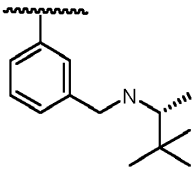
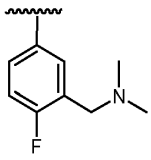


eller



eller

(xxix) R^5 er uavhengig

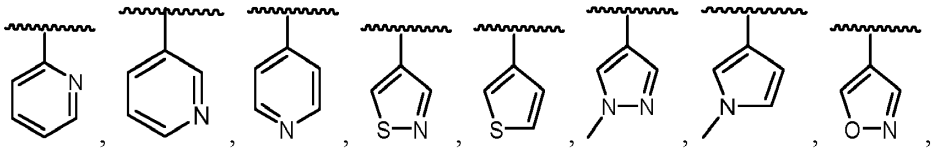
 ,  , eller  ; eller

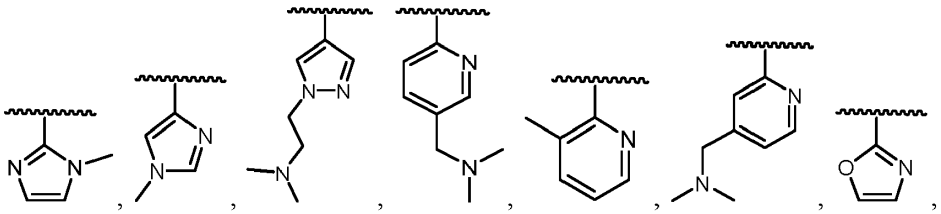
(xxx) R^5 er uavhengig substituert eller usubstituert heteroaryl; eller

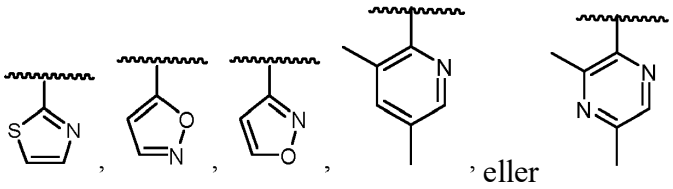
(xxxi) R^5 er uavhengig substituert eller usubstituert 5- til 6-leddet heteroaryl; eller

(xxxii) R^5 er uavhengig substituert eller usubstituert pyridyl, substituert eller usubstituert tienyl, substituert eller usubstituert furanyl, substituert eller usubstituert pyrrolyl, substituert eller usubstituert imidazolyl, substituert eller usubstituert pyrazolyl, substituert eller usubstituert tiazolyl, substituert eller usubstituert isotiazolyl, substituert eller usubstituert oksazolyl eller substituert eller usubstituert isoksazolyl; eller

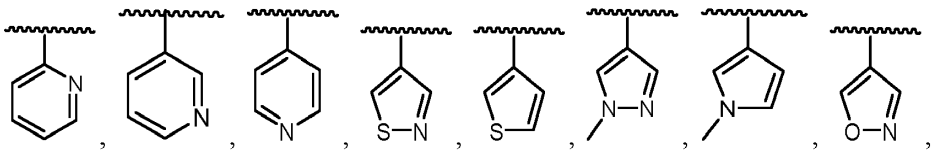
(xxxiii) R^5 er uavhengig

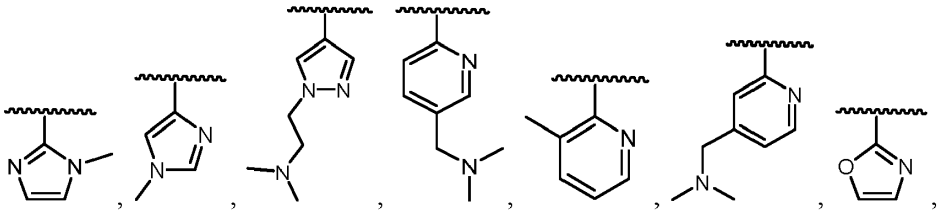




 , eller ; eller

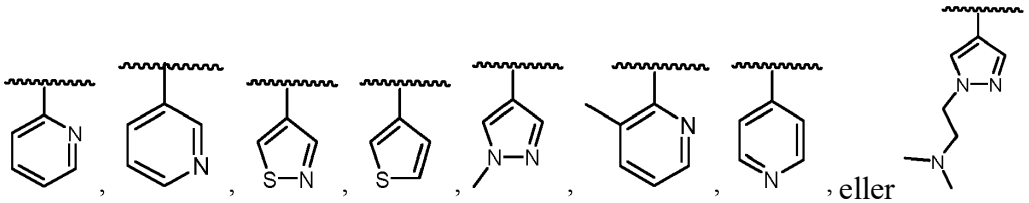
(xxxiv) R^5 er uavhengig





, eller ; eller

(xxxv) R^5 er uavhengig



, eller .

11. Forbindelsen ifølge et hvilket som helst av kravene 1 til 10, hvori:

(i) L^3 er -C(O)-, en binding, -N(R^6)- eller -C(O)N(R^6)-; og R^6 er uavhengig hydrogen, -CX^6_3, -CHX^6_2, -CH_2X^6 eller usubstituert (C_1-C_4)alkyl; eller

(ii) L^3 er -C(O)-, en binding, -N(R^6)- eller -C(O)N(R^6)-; og R^6 er uavhengig hydrogen eller usubstituert metyl; eller

(iii) L^3 er -C(O)-, en binding, -C(O)N(CH_3)-, -N(CH_3)- eller -NH-; eller

(iv) L^3 er -C(O)-; eller

(v) L^3 er en binding; eller

(vi) L^3 er -C(O)N(CH_3)-.

12. Forbindelsen ifølge et hvilket som helst av kravene 1 til 11, hvori:

(i) L^4 er substituert eller usubstituert monosyklisk heterosykloalkylen, substituert eller usubstituert kondensert ringheterosykloalkylen, substituert eller usubstituert spirosyklisk heterosykloalkylen eller substituert eller usubstituert brodannet ringheterosykloalkylen; eller

(ii) L^4 er substituert monosyklisk heterosykloalkylen, substituert kondensert ringheterosykloalkylen, substituert spirosyklisk heterosykloalkylen eller substituert brodannet ringheterosykloalkylen; eller

(iii) L^4 er usubstituert monosyklisk heterosykloalkylen, usubstituert kondensert ringheterosykloalkylen, usubstituert spirosyklisk heterosykloalkylen eller usubstituert brodannet ringheterosykloalkylen; eller

(iv) L^4 er et substituert eller usubstituert 4- til 10-leddet monosyklisk heterosykloalkylen, substituert eller usubstituert 5- til 10-leddet kondensert ringheterosykloalkylen, substituert eller usubstituert 6- til 10-leddet spirosyklisk heterosykloalkylen eller substituert eller usubstituert 5- til 10-leddet brodannet ringheterosykloalkylen; eller

(v) L^4 er et substituert eller usubstituert 5- til 10-leddet monosyklisk heterosykloalkylen, substituert eller usubstituert 6- til 10-leddet kondensert ringheterosykloalkylen, substituert eller usubstituert 7- til 10-leddet spirosyklisk heterosykloalkylen eller substituert eller usubstituert 5- til 10-leddet brodannet ringheterosykloalkylen; eller

(vi) L^4 er et substituert eller usubstituert 5- til 8-leddet monosyklisk heterosykloalkylen, substituert eller usubstituert 7- til 8-leddet kondensert ringheterosykloalkylen, substituert eller usubstituert 7- til 8-leddet spirosyklisk heterosykloalkylen eller substituert eller usubstituert 7- til 8-leddet brodannet ringheterosykloalkylen; eller

(vii) L^4 er et usubstituert 7- til 8-leddet brodannet ringheterosykloalkylen; eller

(viii) L^4 er et usubstituert 7- til 8-leddet kondensert ringheterosykloalkylen; eller

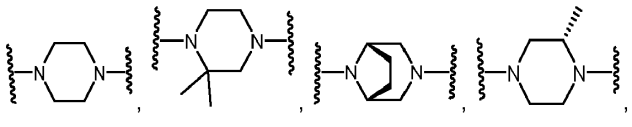
(ix) L^4 er et usubstituert 7- til 8-leddet spirosyklisk heterosykloalkylen; eller

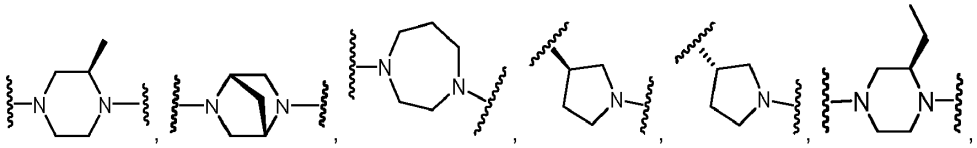
(x) L^4 er et metyl-substituert, etyl-substituert, cyano-substituert, halogen-substituert eller usubstituert 5- til 8-leddet monosyklisk heterosykloalkylen; eller

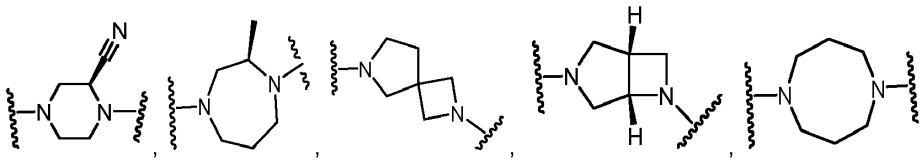
(xi) L^4 er et usubstituert 5- til 8-leddet monosyklisk heterosykloalkylen; eller

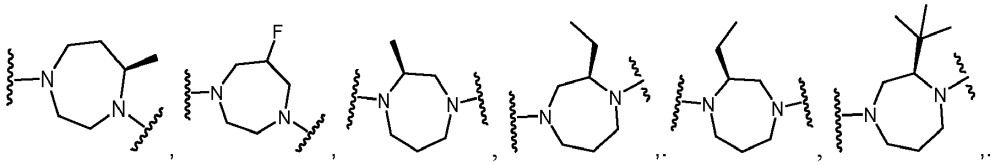
(xii) L^4 er et metyl-substituert 5- til 8-leddet monosyklisk heterosykloalkylen, et etyl-substituert 5- til 8-leddet monosyklisk heterosykloalkylen, et isopropyl-substituert 5- til 8-leddet monosyklisk heterosykloalkylen eller et tert-butyl-substituert 5- til 8-leddet monosyklisk heterosykloalkylen; eller

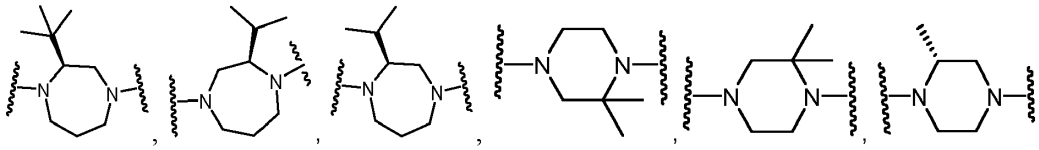
(xiii) L^4 er

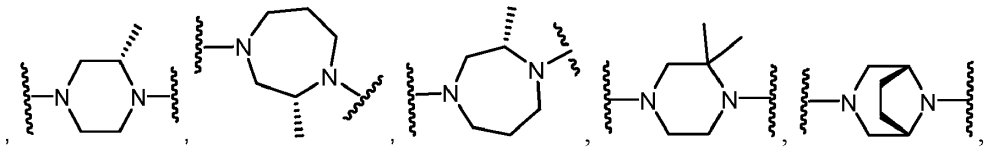


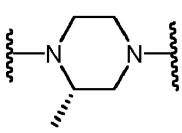


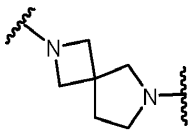




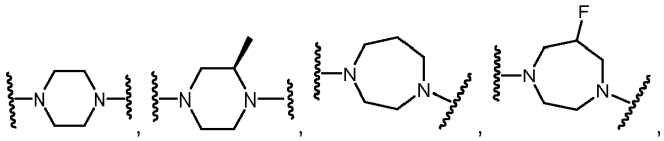


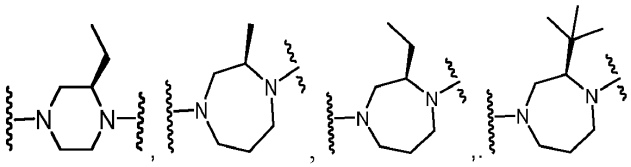


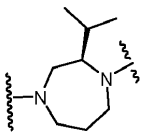

, eller


; eller

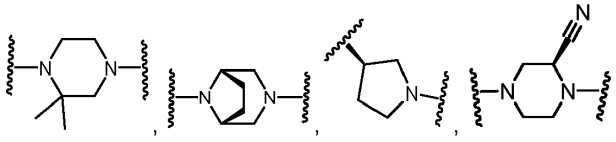
(xiv) L^4 er

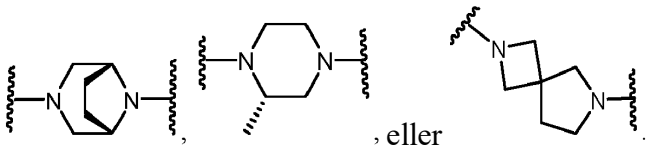



, eller


; eller

(xv) L^4 er





, eller

13. Forbindelsen ifølge et hvilket som helst av kravene 1 til 12, hvori:

Alternativ A:

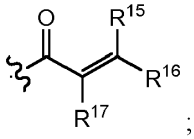
R^{15} er uavhengig hydrogen, halogen, CX^{15}_3, $-CHX^{15}_2$, $-CH_2X^{15}$, -CN, $-SR^{15D}$, $-NR^{15A}R^{15B}$, $-C(O)R^{15C}$, $-C(O)-OR^{15C}$, $-C(O)NR^{15A}R^{15B}$, $-OR^{15D}$, $-NR^{15A}C(O)R^{15C}$, $-NR^{15A}C(O)OR^{15C}$, $-OCX^{15}_3$, $-OCHX^{15}_2$, substituert eller usubstituert alkyl, substituert eller usubstituert heteroalkyl, substituert eller usubstituert sykloalkyl, substituert eller usubstituert heterosykloalkyl, substituert eller usubstituert aryl, substituert eller usubstituert heteroaryl;

R^{16} er uavhengig hydrogen, halogen, CX^{16}_3, $-CHX^{16}_2$, $-CH_2X^{16}$, -CN, $-SR^{16D}$, $-NR^{16A}R^{16B}$, $-C(O)R^{16C}$, $-C(O)-OR^{16C}$, $-C(O)NR^{16A}R^{16B}$, $-OR^{16D}$, $-NR^{16A}C(O)R^{16C}$, $-NR^{16A}C(O)OR^{16C}$, $-OCX^{16}_3$, $-OCHX^{16}_2$, substituert eller usubstituert alkyl, substituert eller usubstituert heteroalkyl, substituert eller usubstituert sykloalkyl, substituert eller usubstituert heterosykloalkyl, substituert eller usubstituert aryl, substituert eller usubstituert heteroaryl; og

R^{17} er uavhengig hydrogen, halogen, $-CX^{17}_3$, $-CHX^{17}_2$, $-CH_2X^{17}$, -CN, $-SR^{17D}$, $-NR^{17A}R^{17B}$, $-C(O)R^{17C}$, $-C(O)-OR^{17C}$, $-C(O)NR^{17A}R^{17B}$, $-OR^{17D}$, $-NR^{17A}C(O)R^{17C}$, $-NR^{17A}C(O)OR^{17C}$, $-OCX^{17}_3$, $-OCHX^{17}_2$, substituert eller usubstituert alkyl eller substituert eller usubstituert heteroalkyl; eller

Alternativ B: R^{15}, R^{16}, R^{17} og R^{18} er hydrogen; eller

Alternativ C: E er:



;

hensiktsmessig i alternativ C

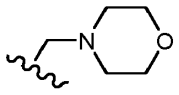
R^{15} er hydrogen;

R^{16} er hydrogen; og

R^{17} er hydrogen; eller

hensiktsmessig i alternativ C

R^{15} er hydrogen;

R^{16} er hydrogen, $-CH_3$, $-CH_2NR^{16A}R^{16B}$ eller  ;

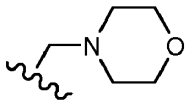
R^{17} er hydrogen; og

R^{16A} og R^{16B} er uavhengig hydrogen eller usubstituert alkyl, for eksempel er R^{16A} og R^{16B} uavhengig usubstituert metyl; eller

hensiktsmessig i alternativ C

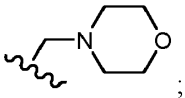
R^{15} er hydrogen;

R^{16} er hydrogen;

R^{17} er hydrogen, $-CH_3$, $-CH_2NR^{17A}R^{17B}$ eller  ; og

R^{17A} og R^{17B} er uavhengig hydrogen eller usubstituert alkyl, for eksempel hvori R^{17A} og R^{17B} er uavhengig usubstituert metyl; eller

hensiktsmessig i alternativ C

R^{15} er hydrogen, $-CH_3$, $-CH_2NR^{15A}R^{15B}$ eller  ;

R^{16} er hydrogen;

R^{17} er hydrogen; og

R^{15A} og R^{15B} er uavhengig hydrogen eller usubstituert alkyl, for eksempel hvori R^{15A} og R^{15B} er uavhengig usubstituert metyl; eller

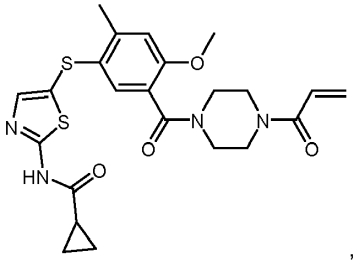
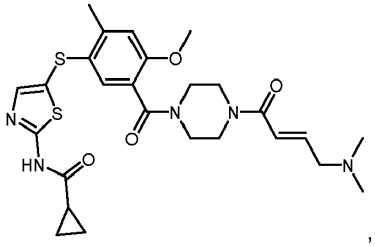
Alternativ D: E er

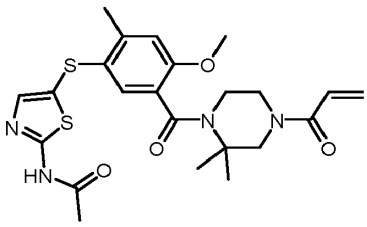
$-C(O)CH=CH_2$, $-C(O)CH=CHCH_2N(CH_3)_2$, $-C(O)C(=CH_2)CH_2N(CH_3)_2$,

$-C(O)C\equiv CCH_3$ eller $-C(O)C(=CH_2)CH_3$.

14. Forbindelse ifølge krav **1**, hvori forbindelsen er en forbindelse valgt fra én av forbindelsene oppført i alternativ A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S eller T:

Alternativ A:

 ,  ,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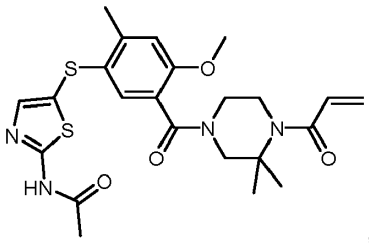
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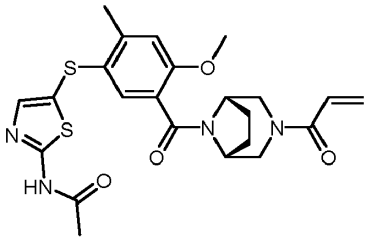
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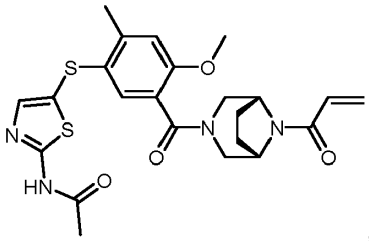
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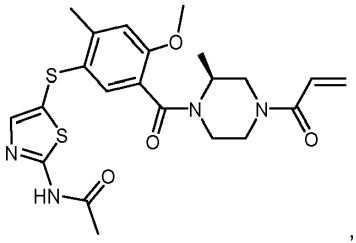
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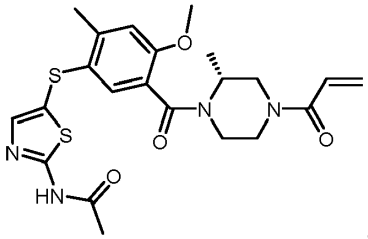
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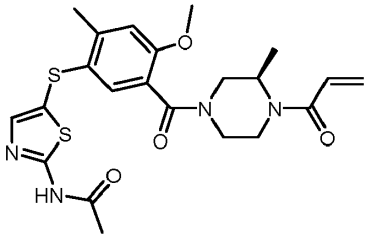
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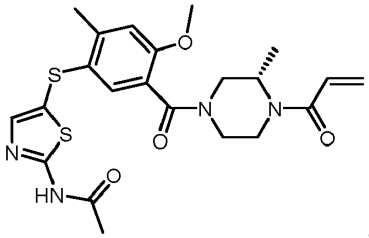
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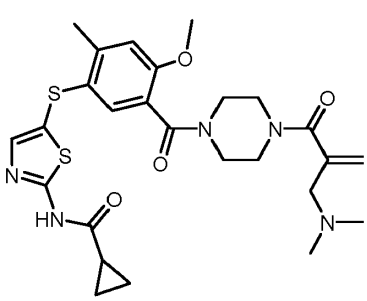
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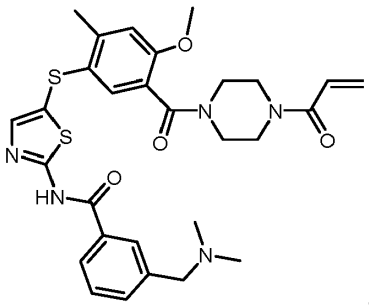
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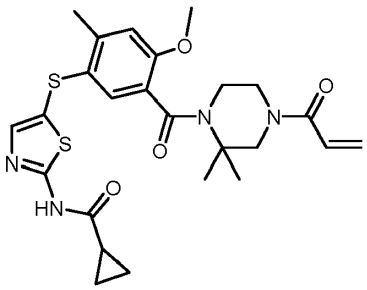
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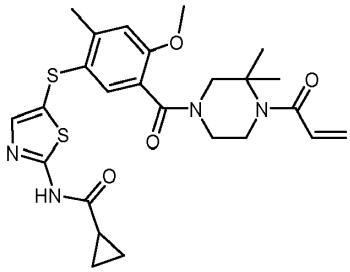
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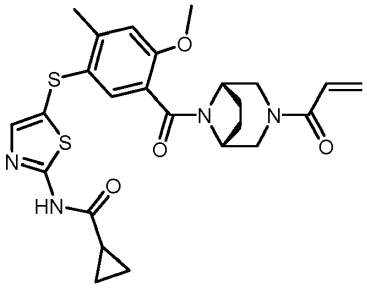
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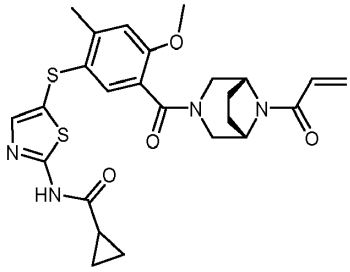
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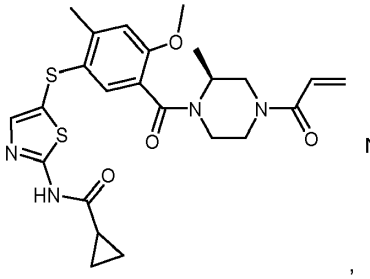
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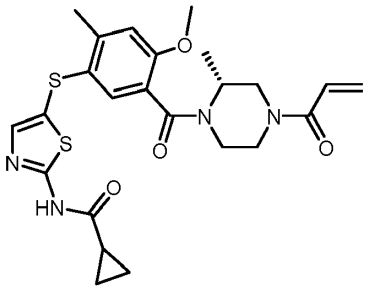
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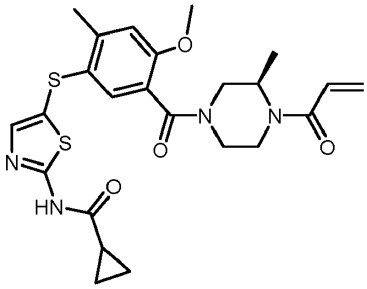
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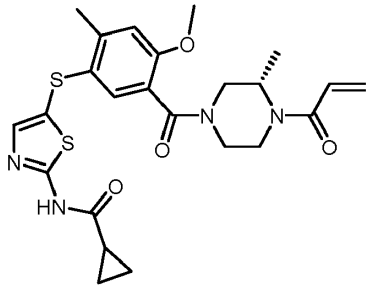
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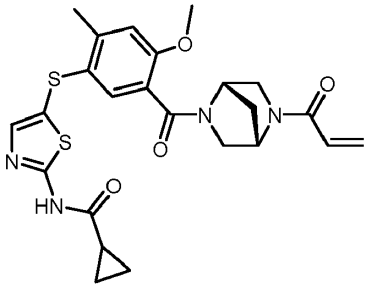
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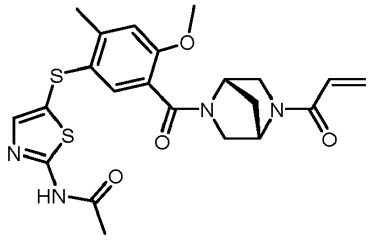
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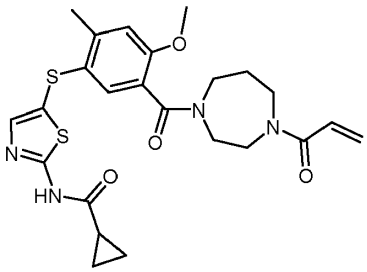
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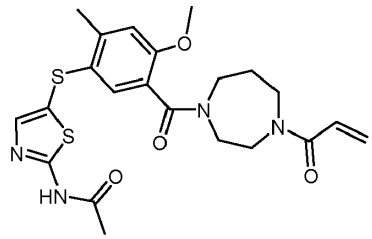
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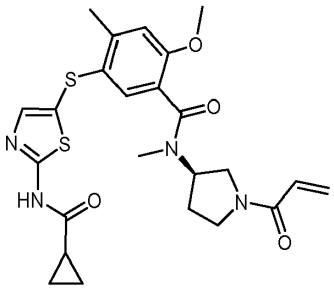
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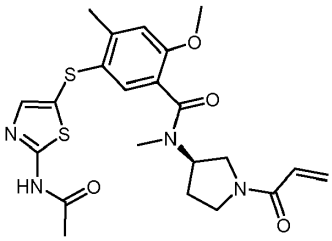
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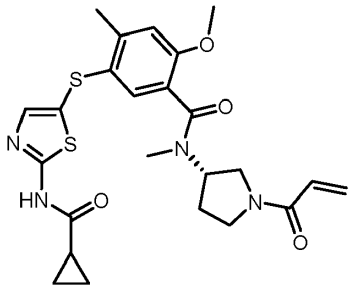
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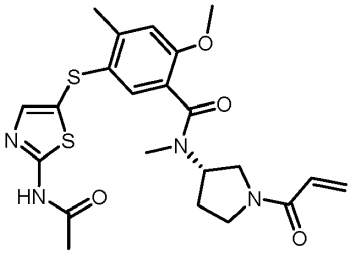
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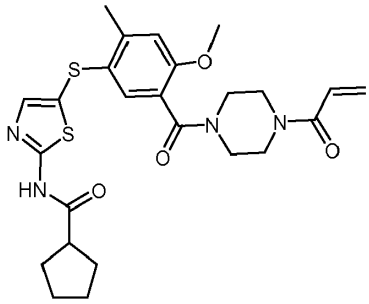
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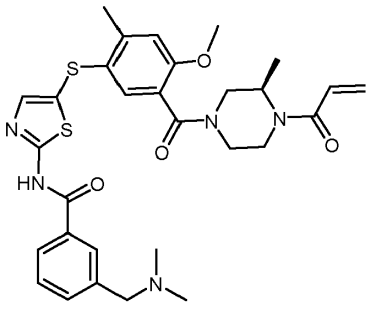
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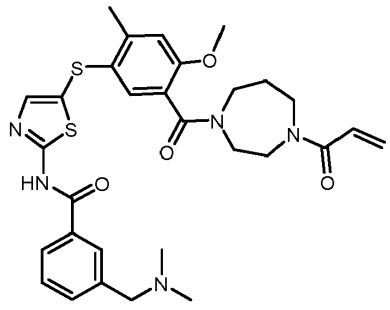
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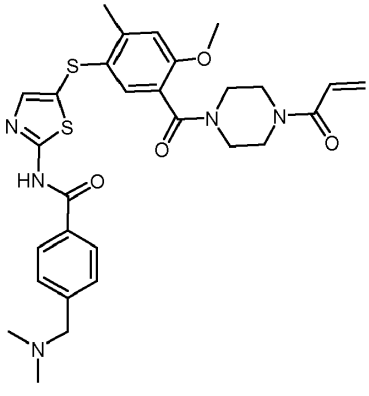
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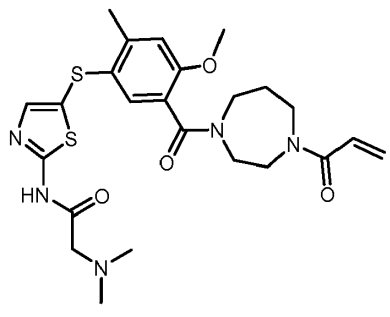
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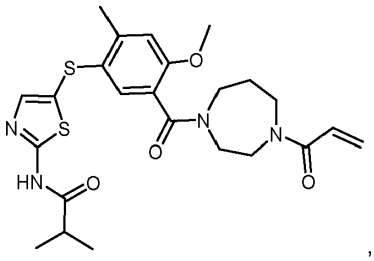
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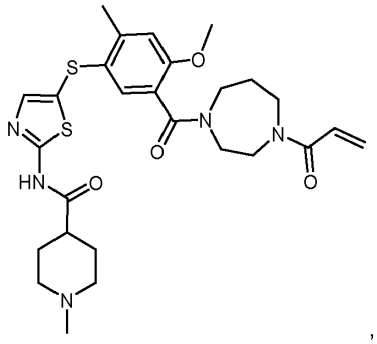
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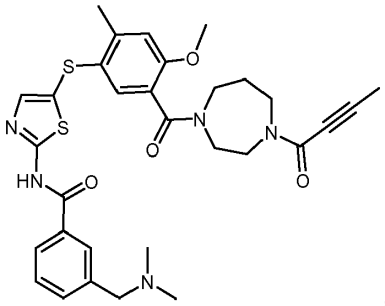
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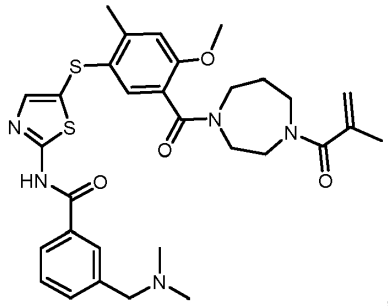
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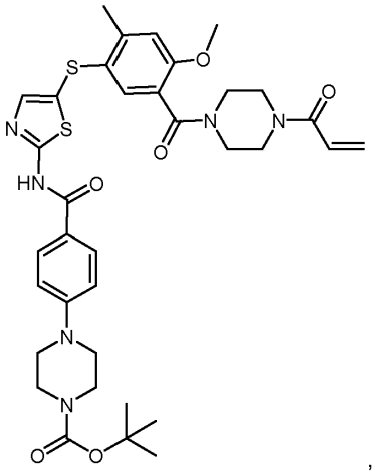
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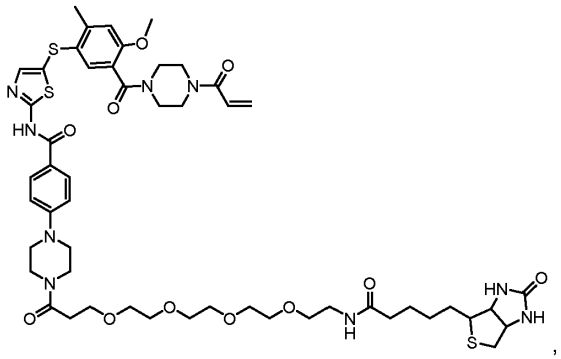
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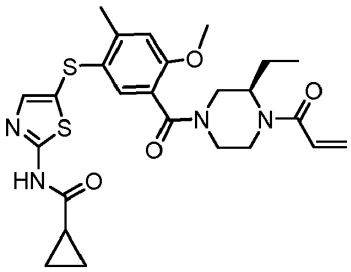
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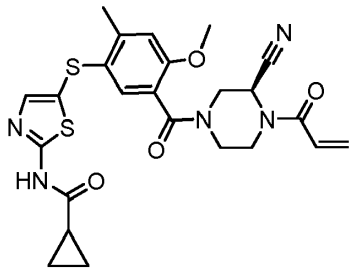
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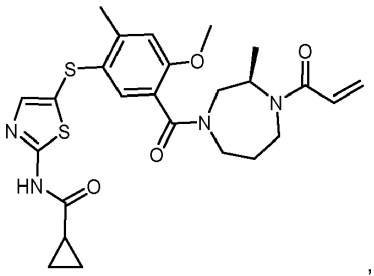
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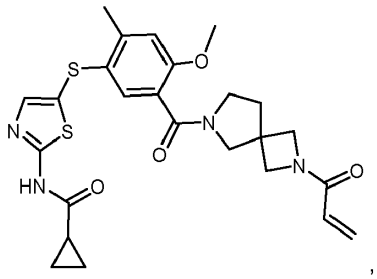
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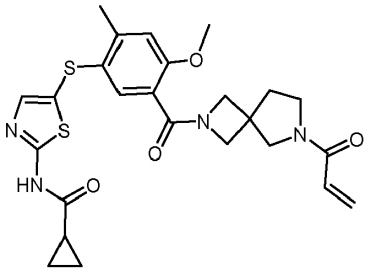
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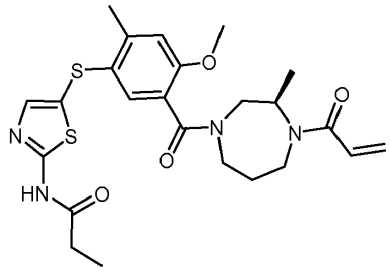
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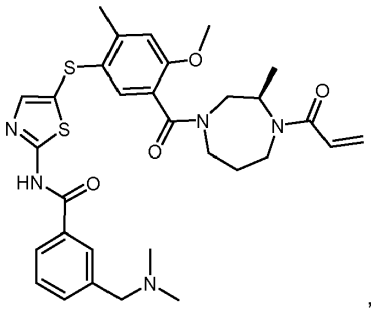
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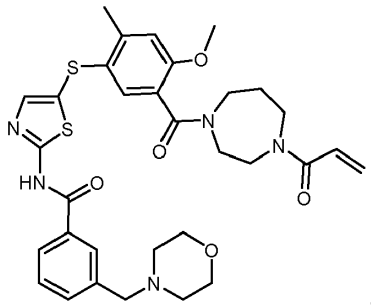
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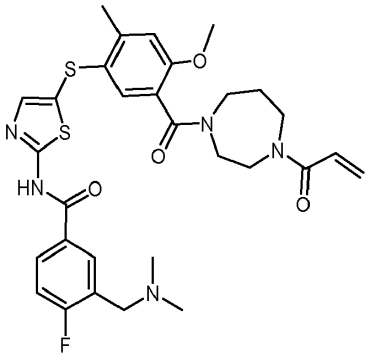
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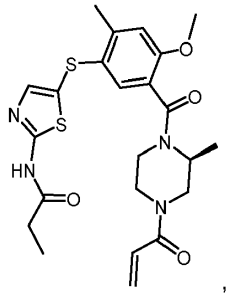
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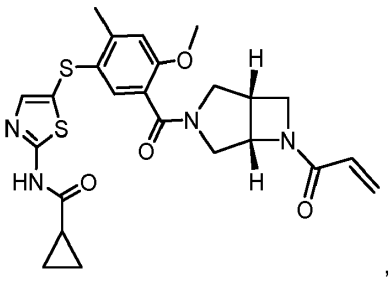
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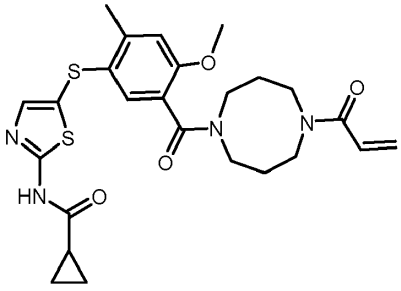
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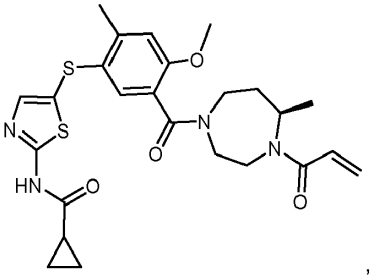
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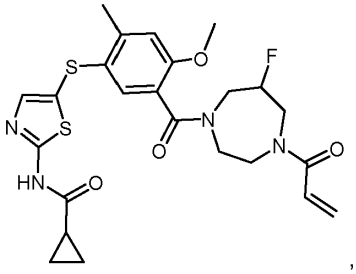
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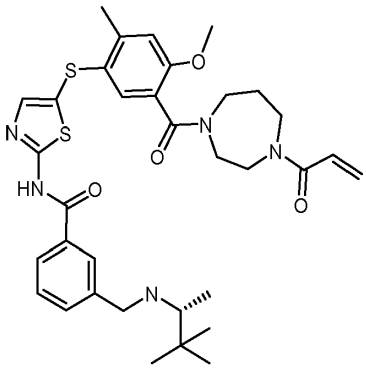
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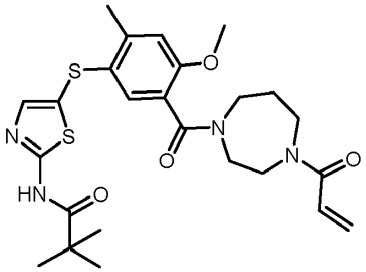
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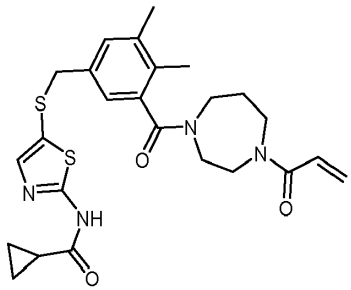
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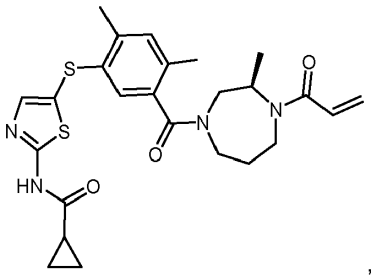
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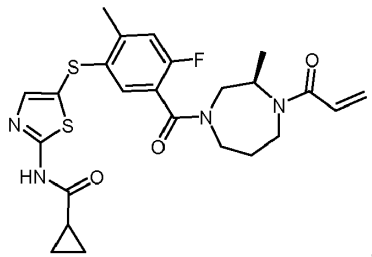
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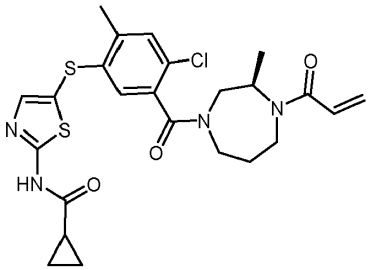
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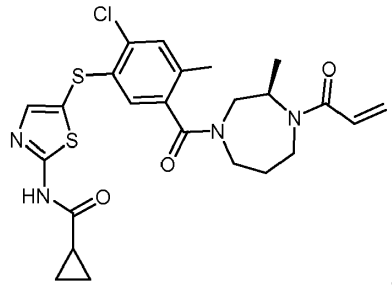
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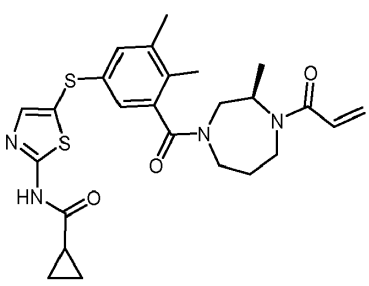
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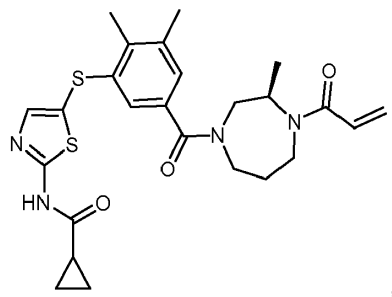
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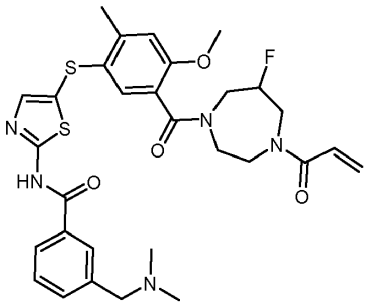
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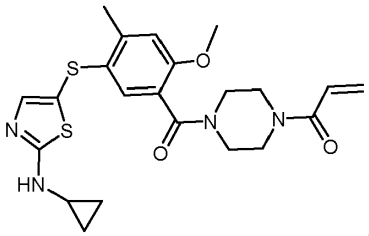
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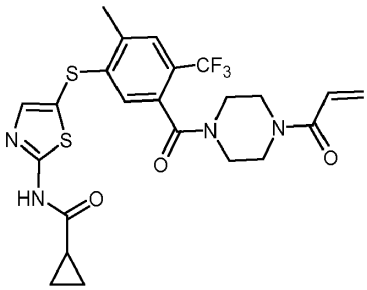
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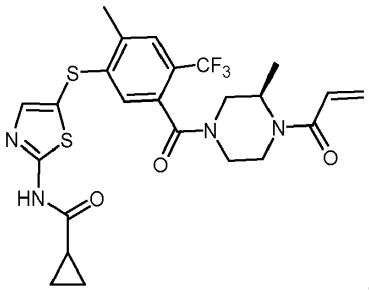
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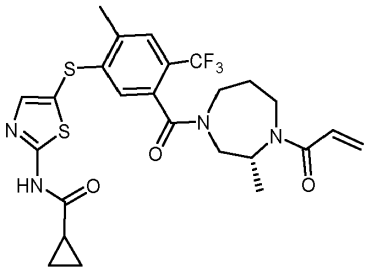
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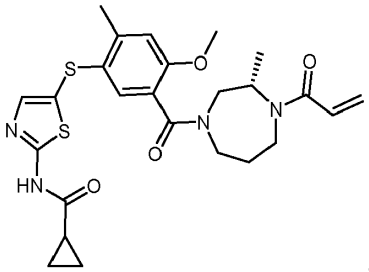
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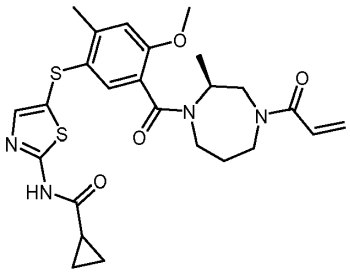
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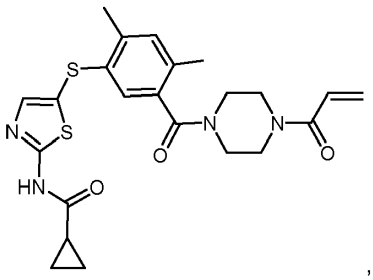
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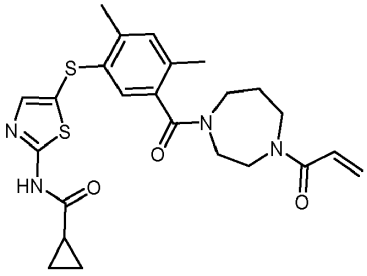
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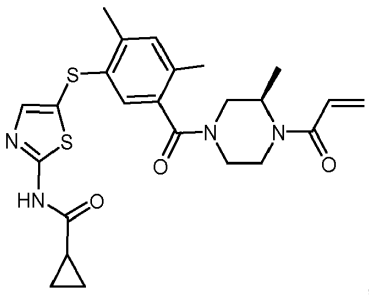
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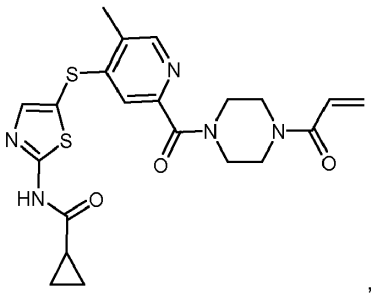
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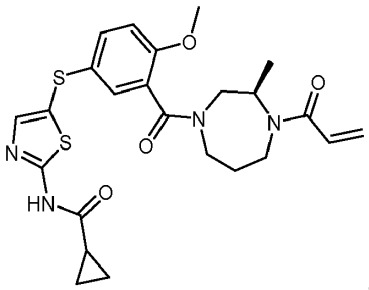
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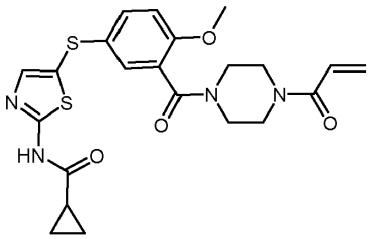
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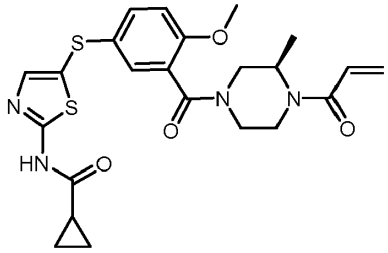
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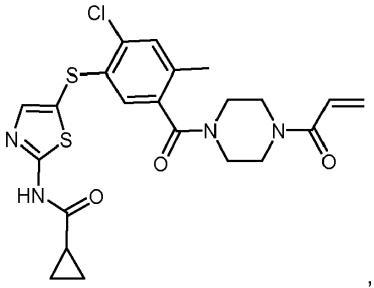
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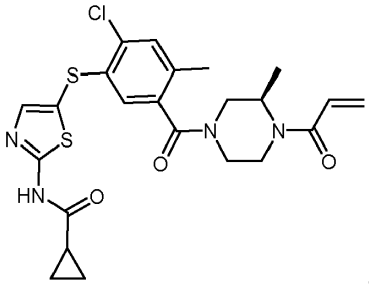
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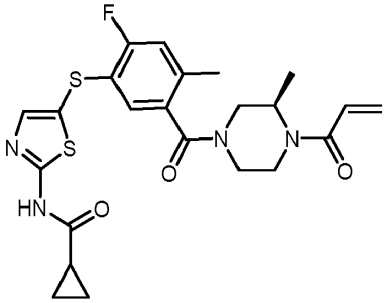
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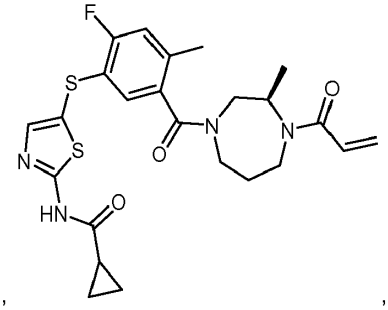
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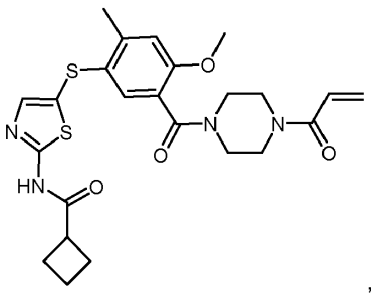
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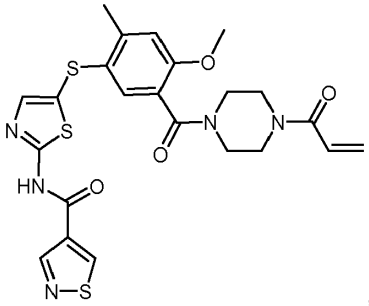
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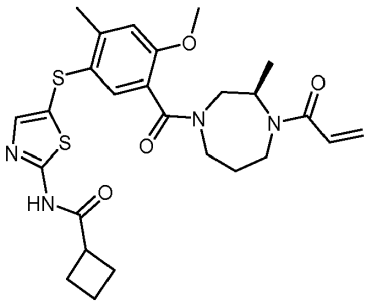
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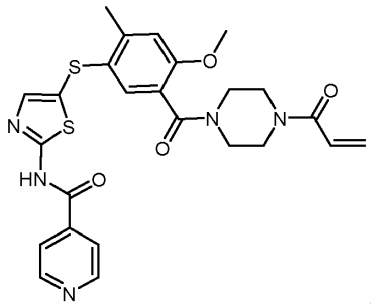
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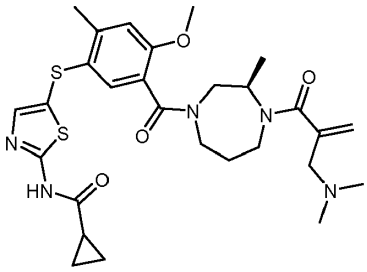
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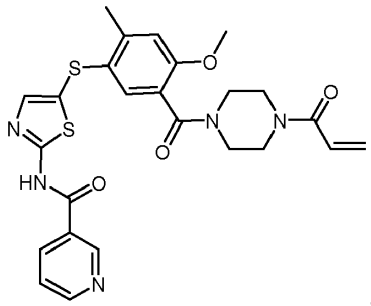
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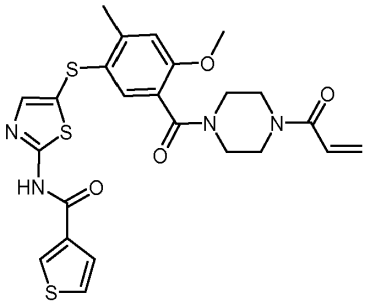
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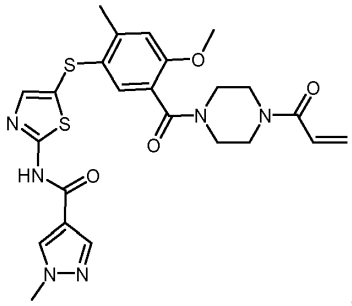
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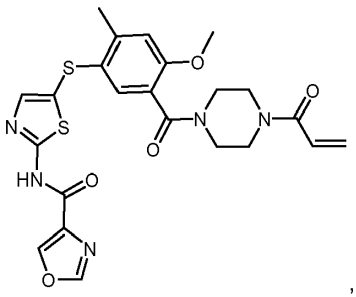
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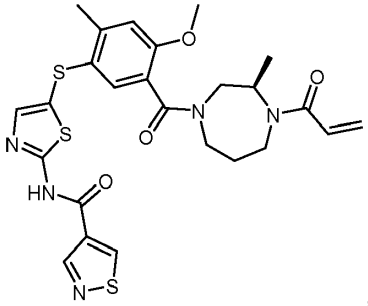
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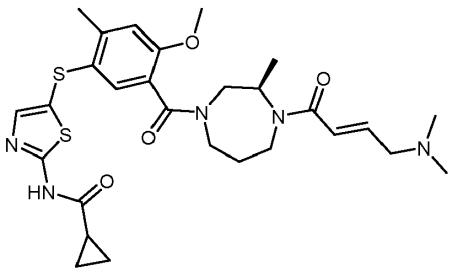
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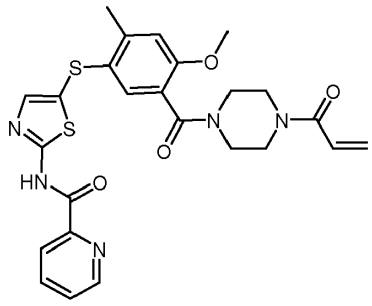
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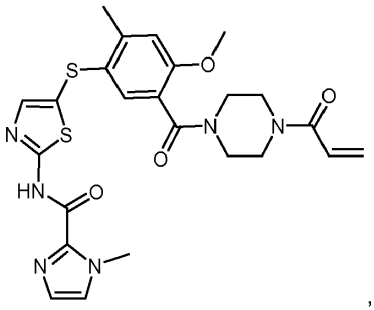
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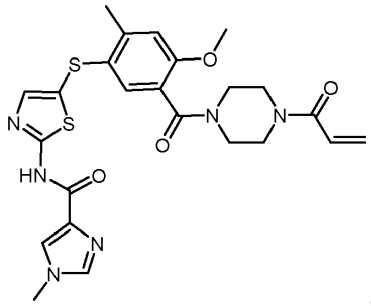
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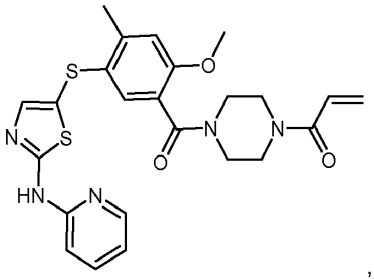
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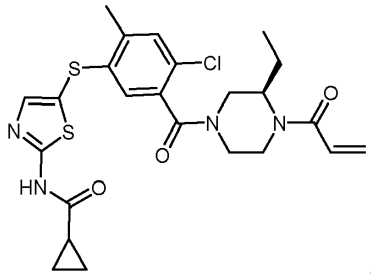
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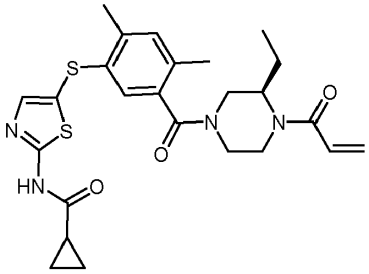
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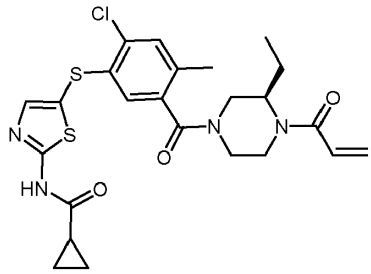
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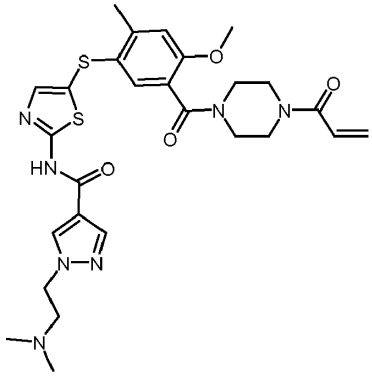
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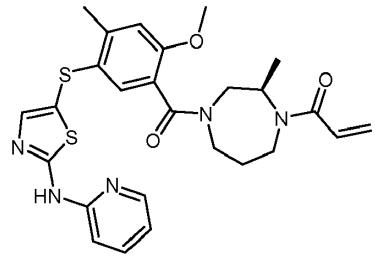
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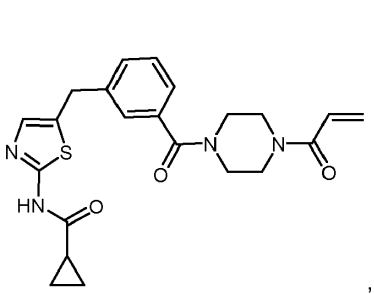
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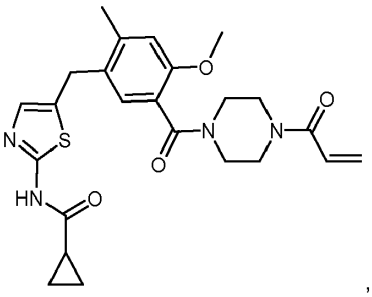
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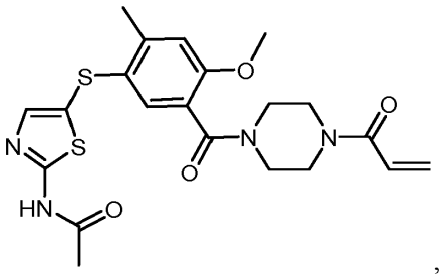
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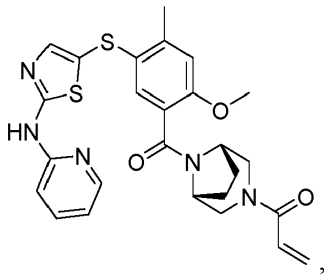
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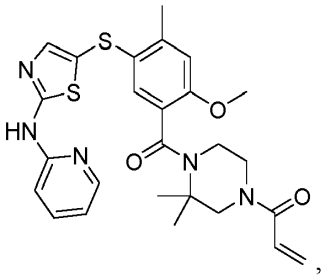
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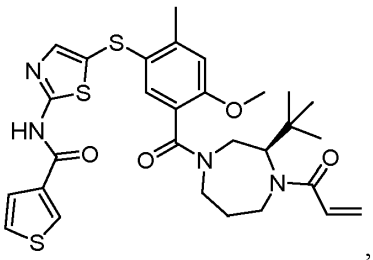
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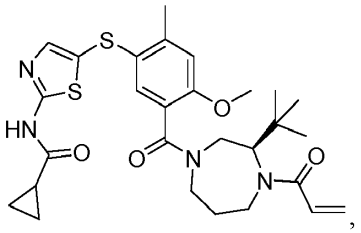
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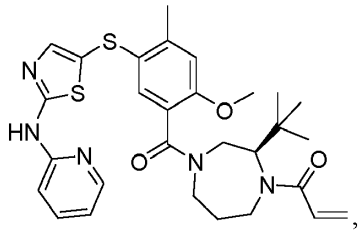
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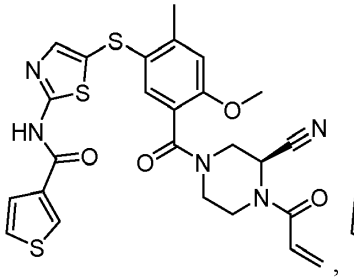
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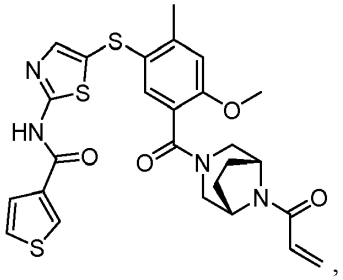
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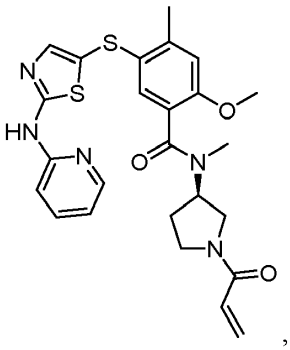
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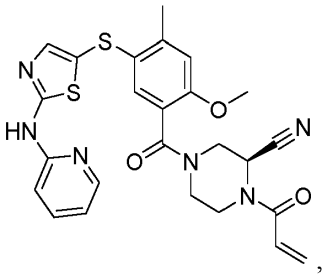
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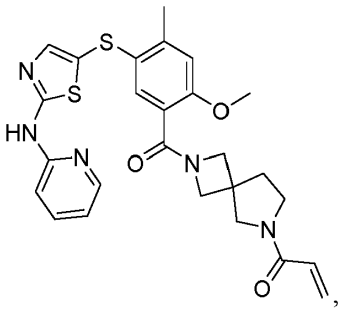
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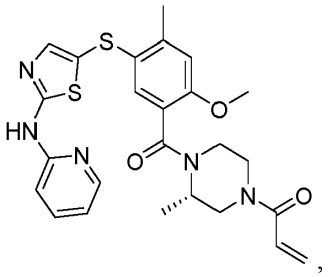
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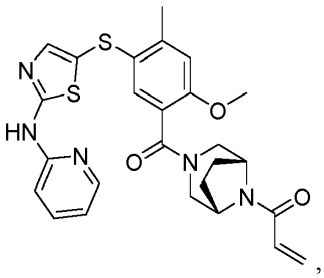
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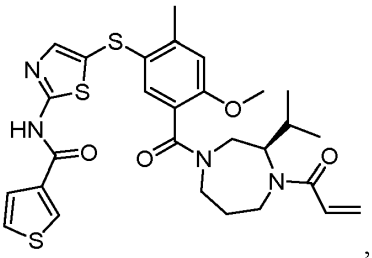
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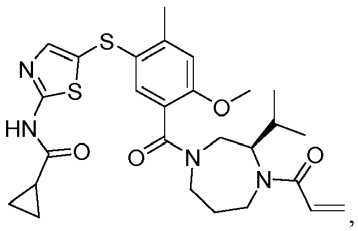
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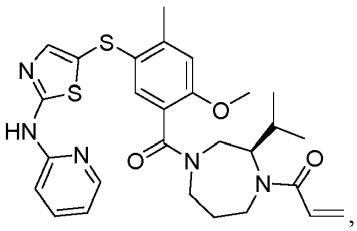
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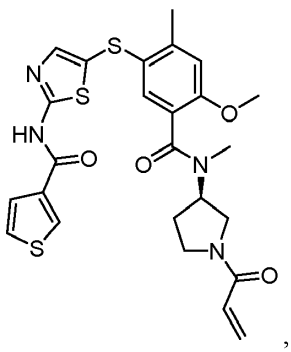
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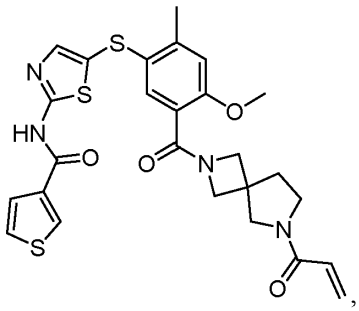
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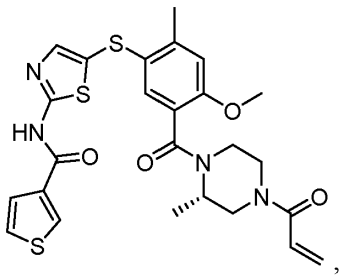
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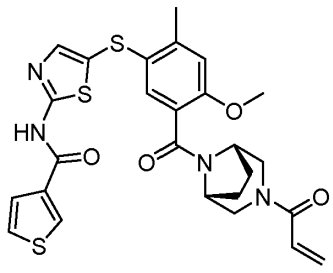
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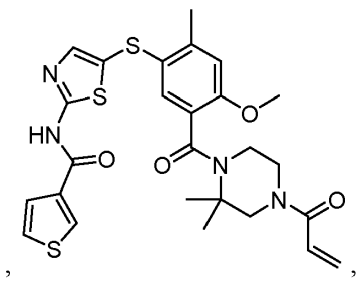
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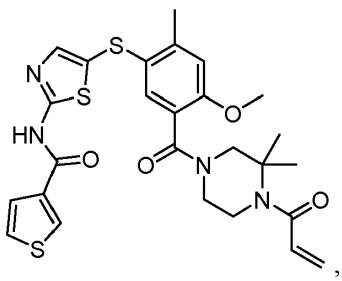
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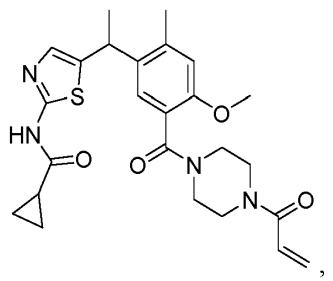
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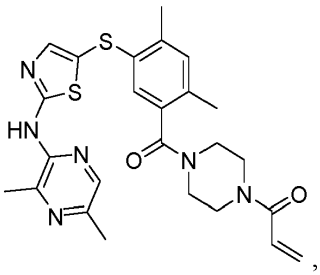
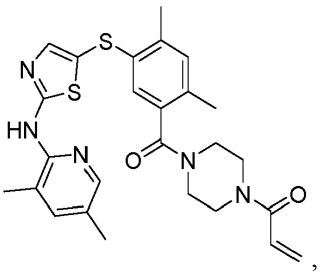
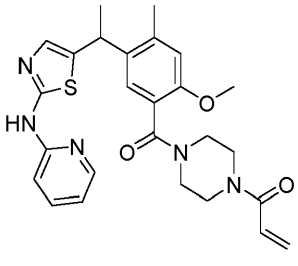
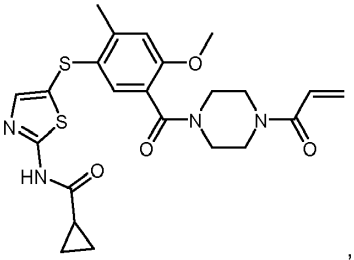
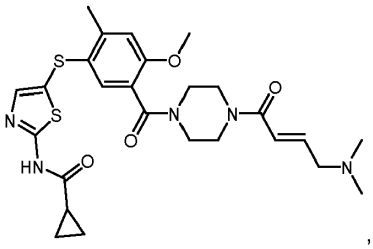
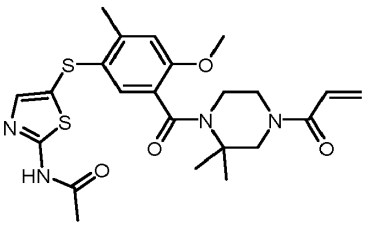
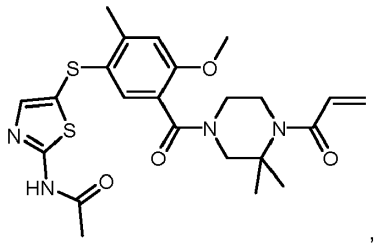
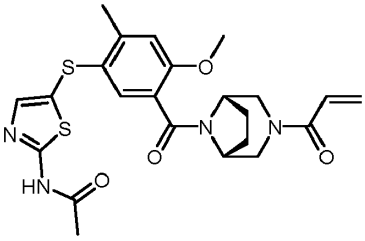
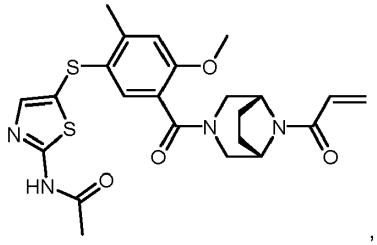
 ,  , eller  , eller

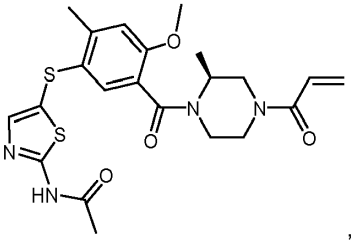
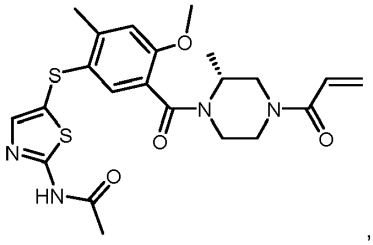
et farmasøytisk akseptabelt salt derav; eller

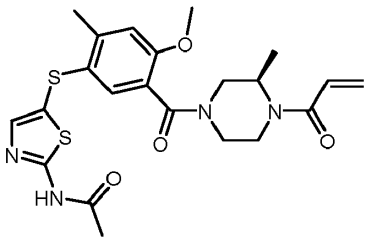
Alternativ B:

 ,  ,

 ,  ,

 ,  ,

 ,  ,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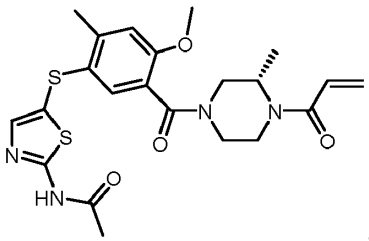
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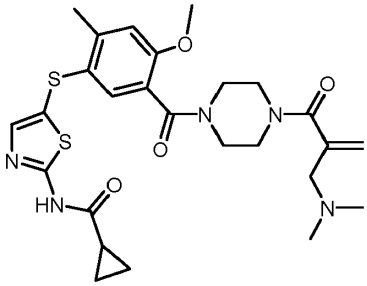
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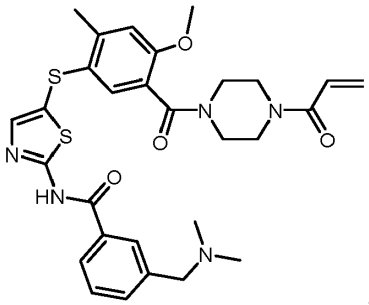
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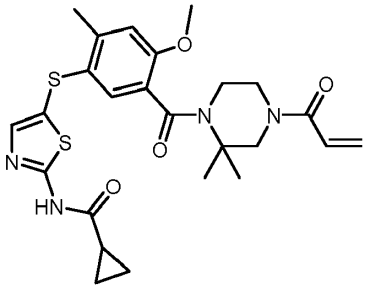
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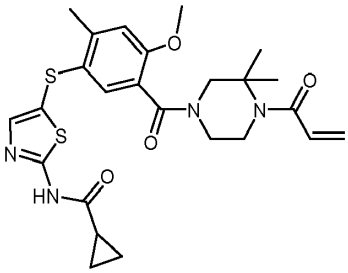
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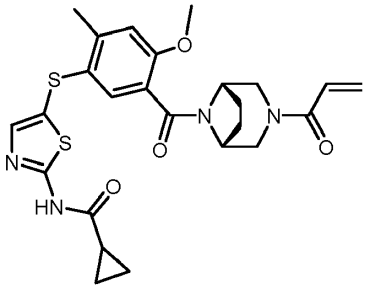
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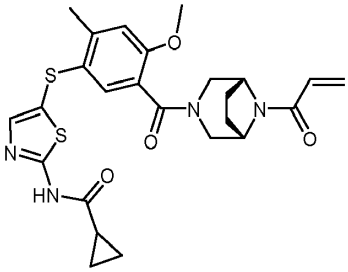
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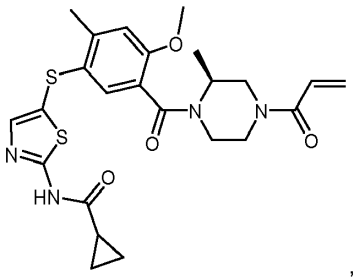
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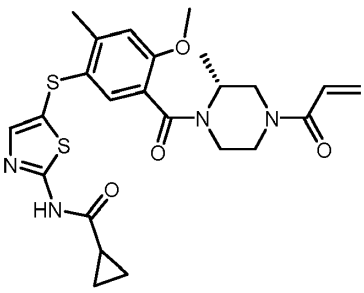
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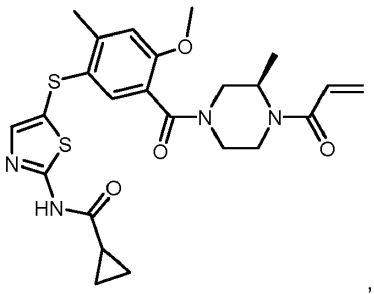
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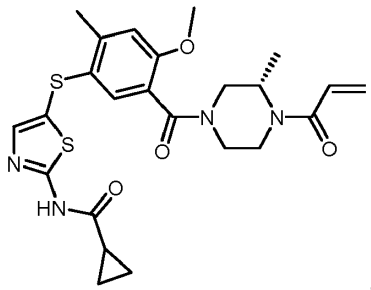
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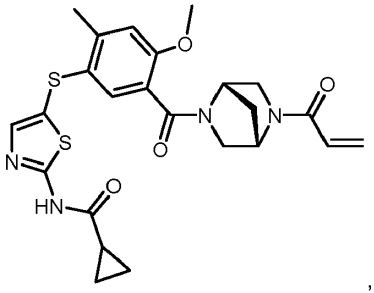
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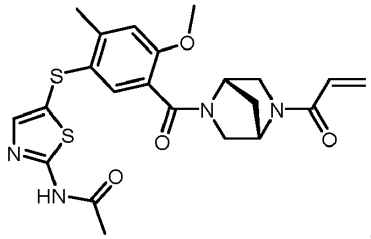
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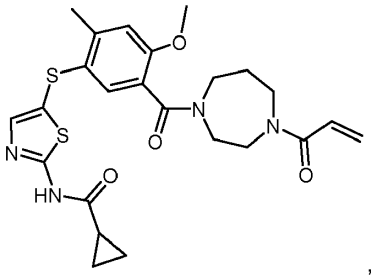
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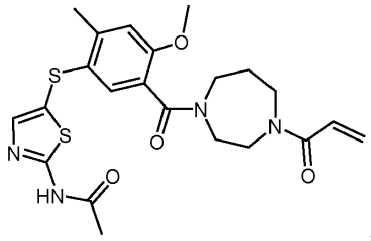
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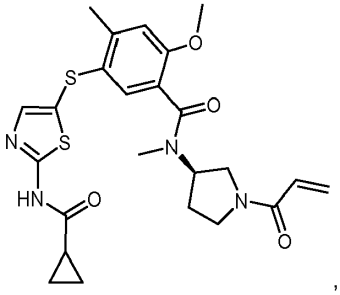
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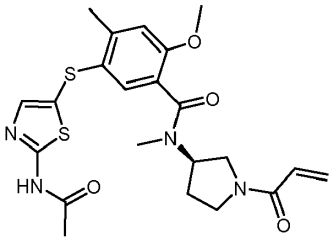
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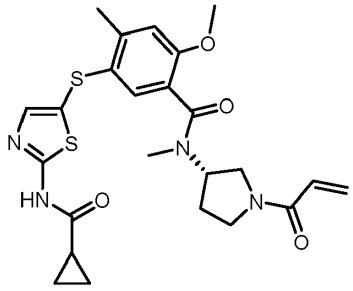

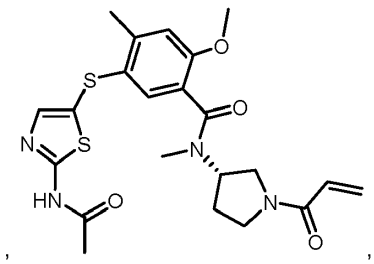
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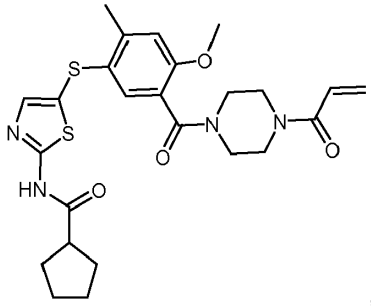
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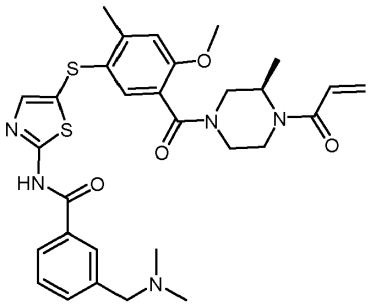
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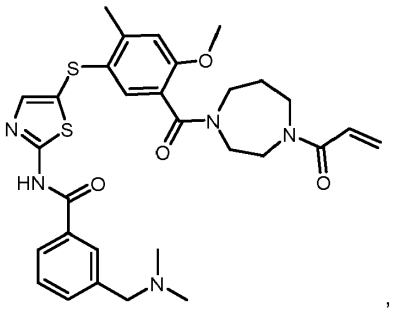
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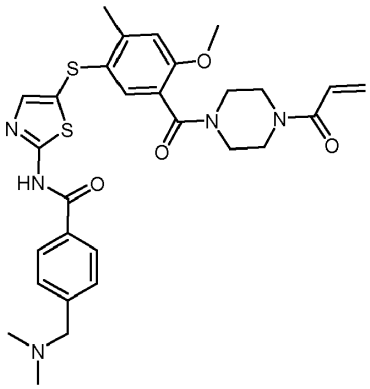
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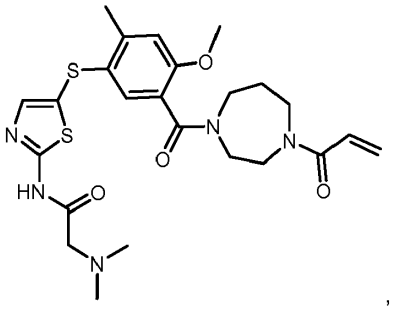
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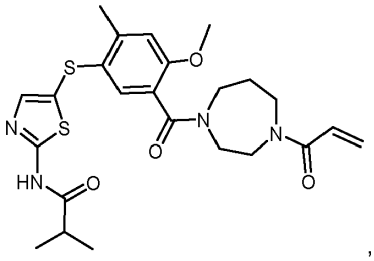
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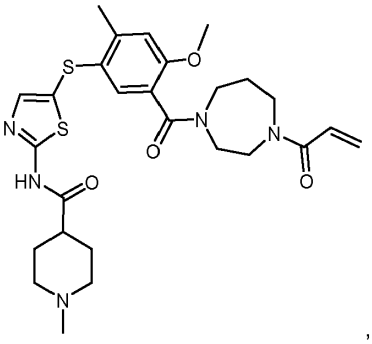
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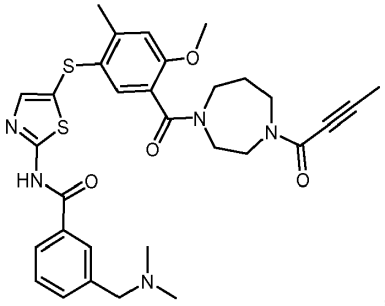
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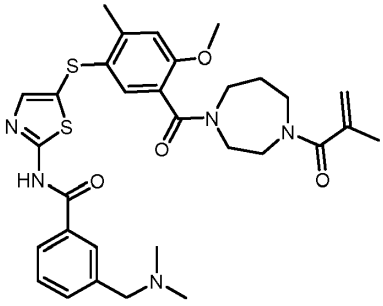
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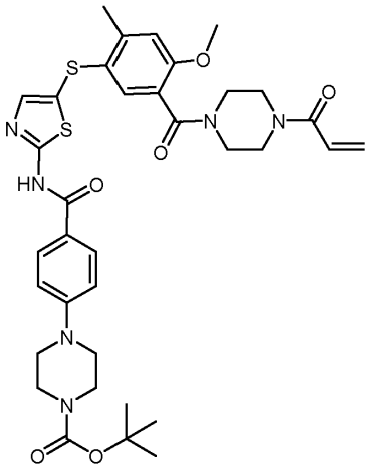
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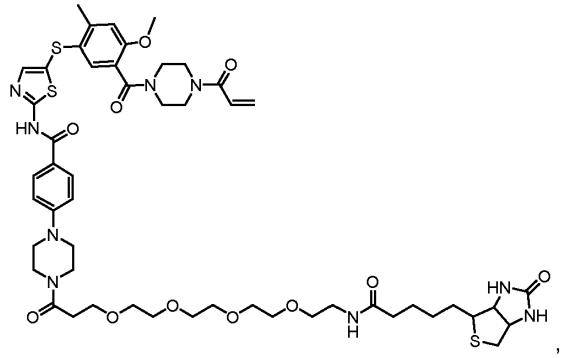
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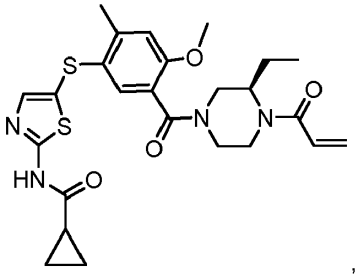
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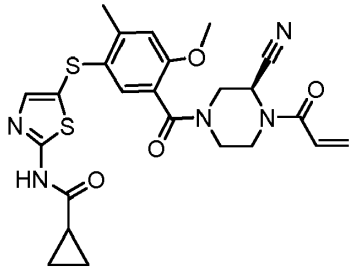
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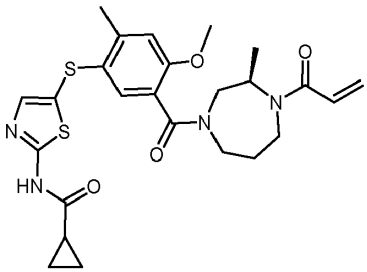
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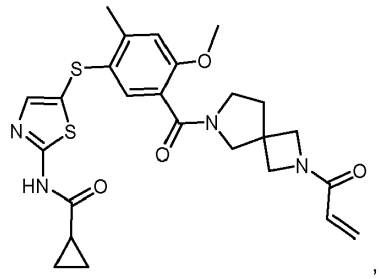
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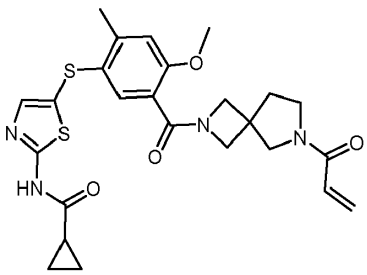
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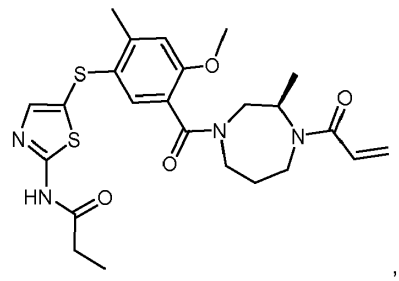
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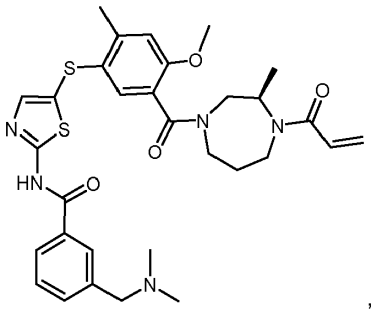
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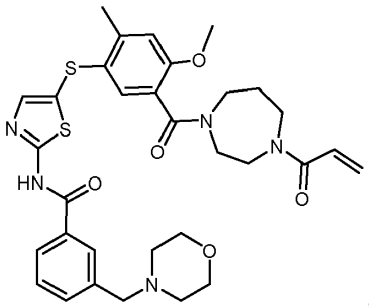
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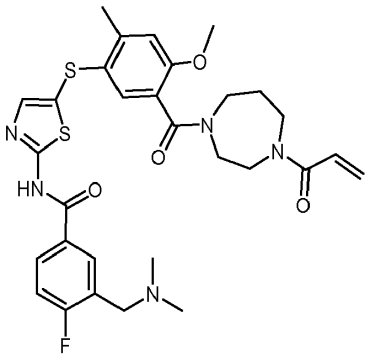
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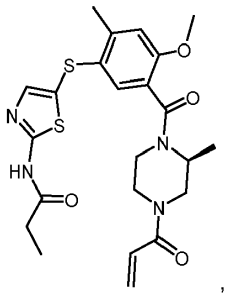
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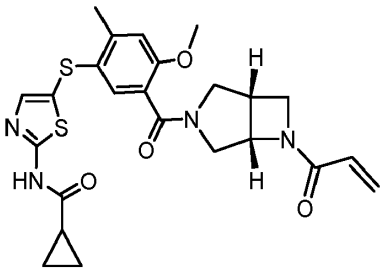
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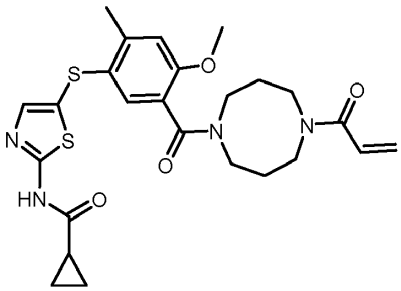
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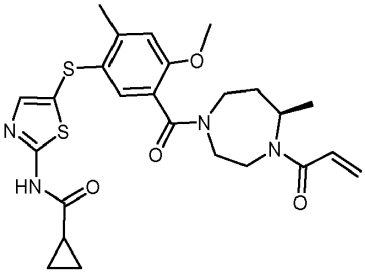
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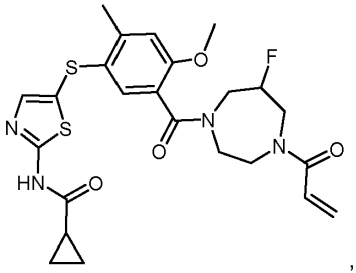
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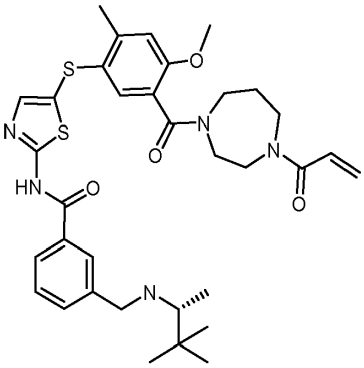
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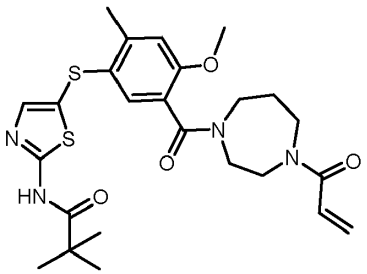
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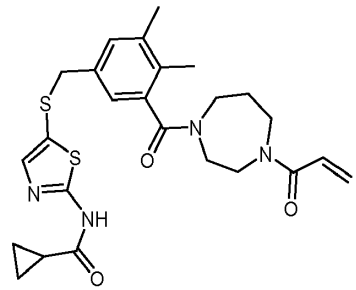
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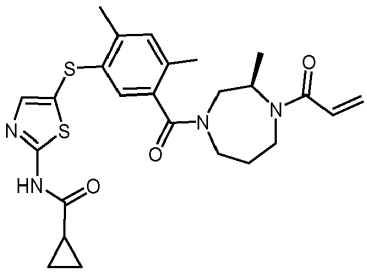
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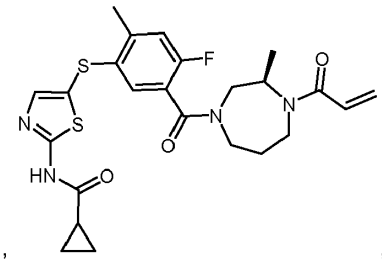
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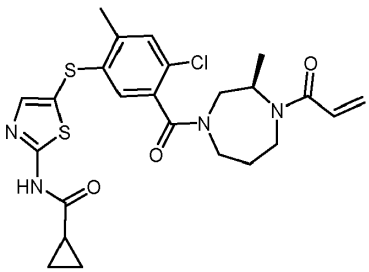
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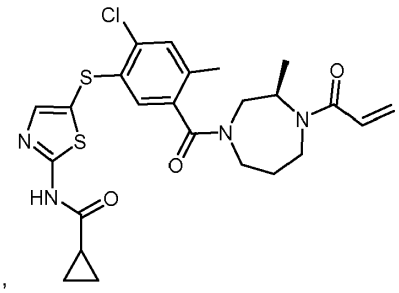
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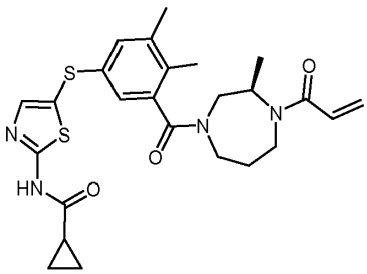
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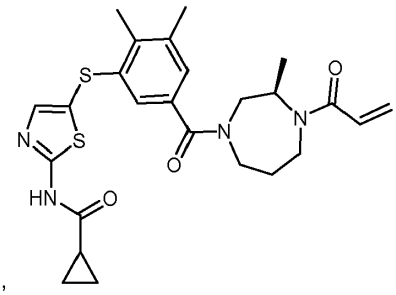
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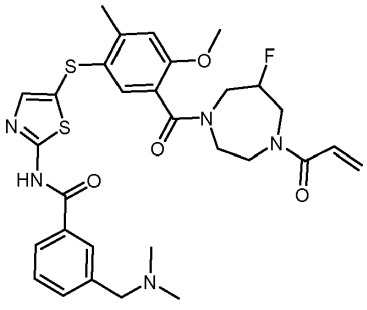
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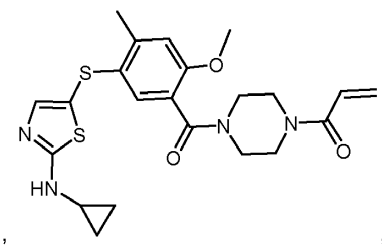
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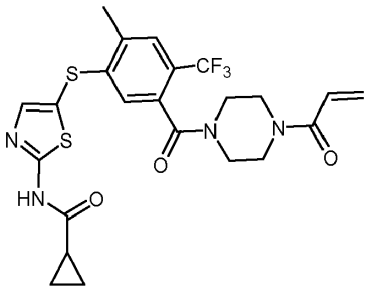
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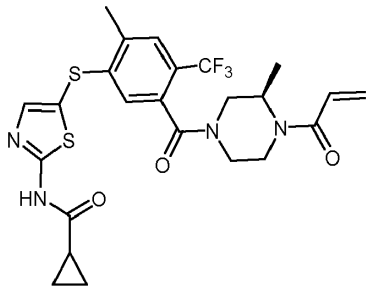
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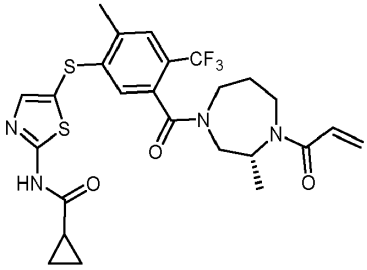
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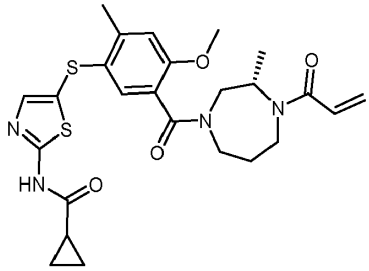
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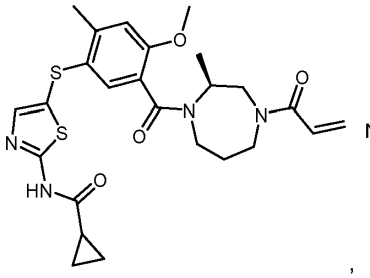
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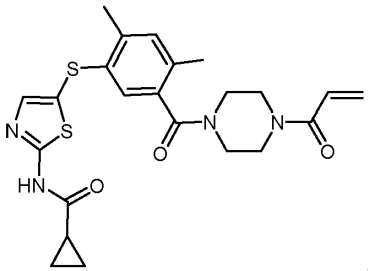
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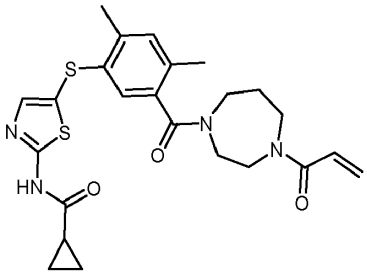
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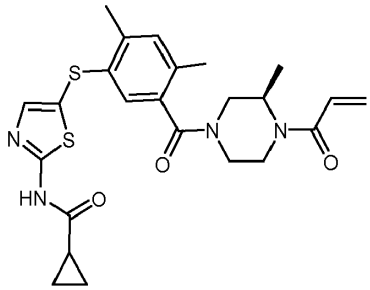
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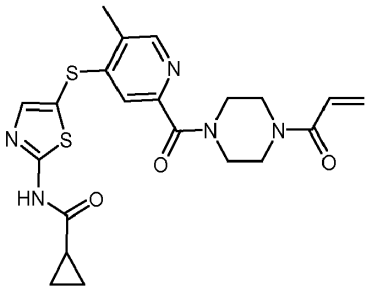
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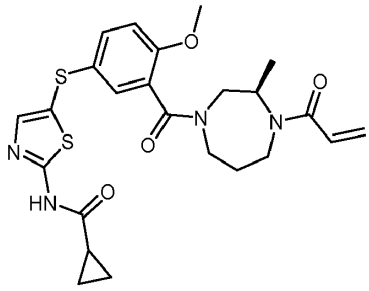
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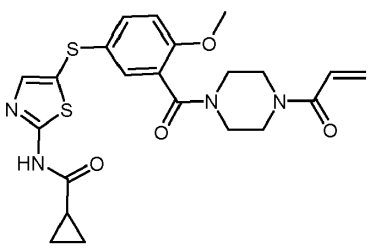
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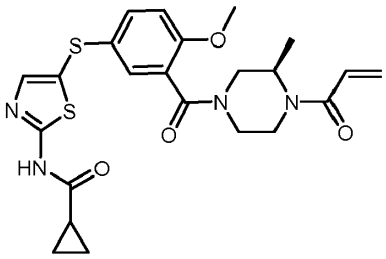
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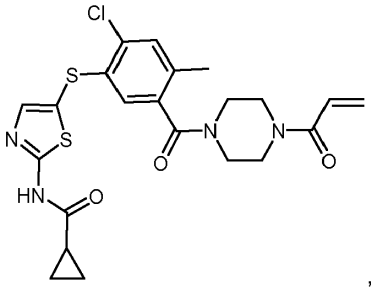
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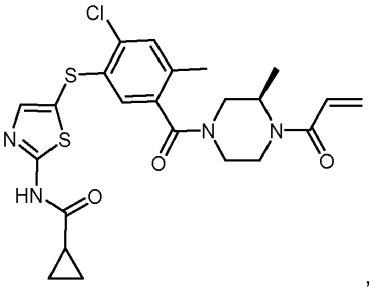
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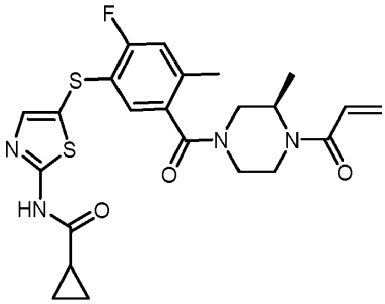
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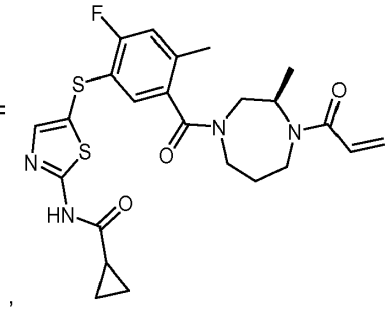
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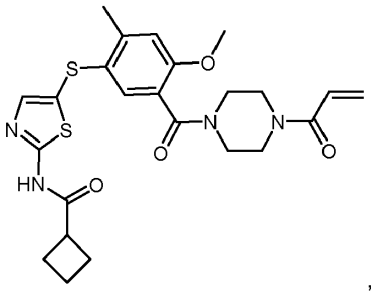
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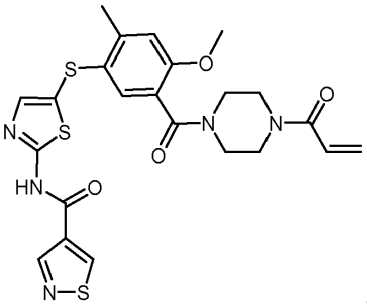
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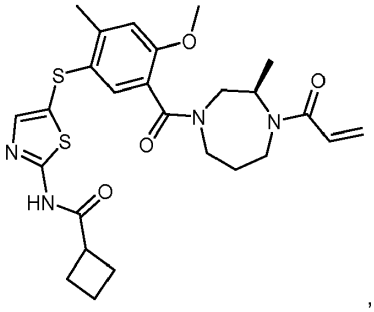
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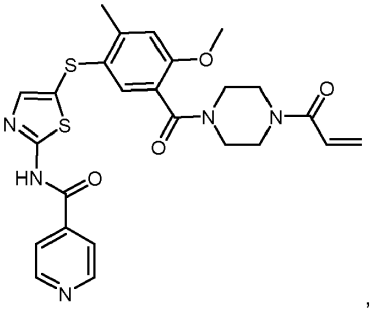
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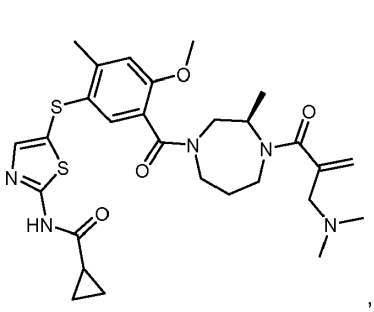
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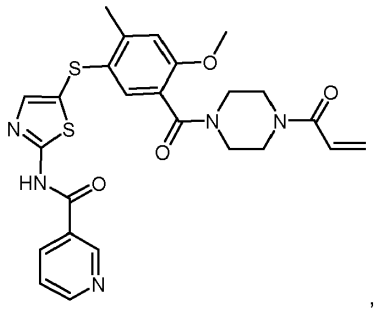
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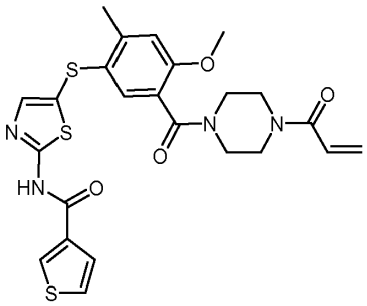
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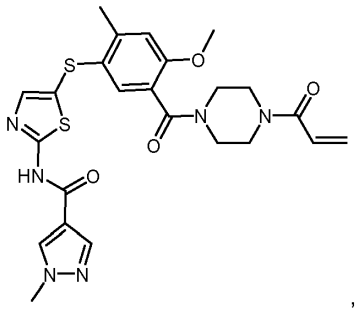
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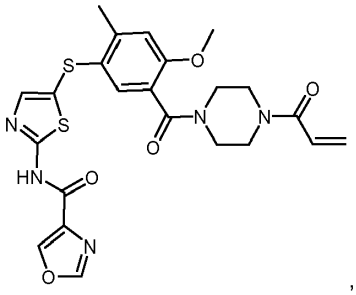
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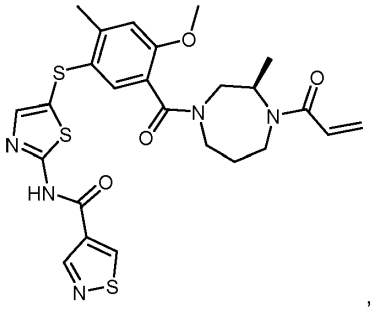
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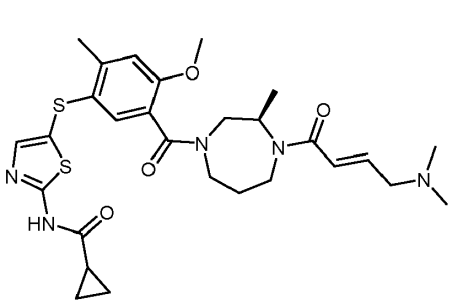
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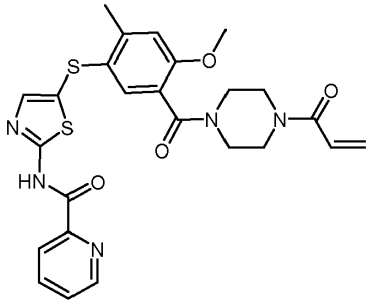
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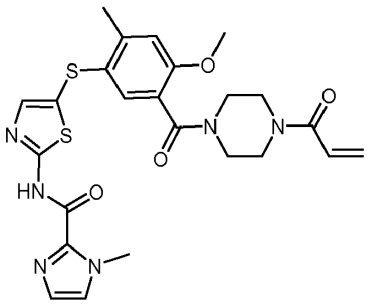
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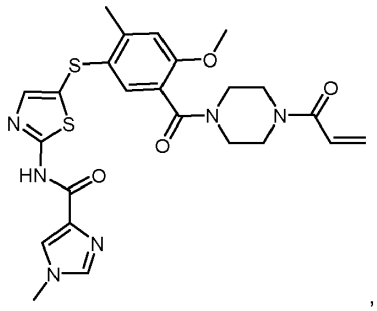
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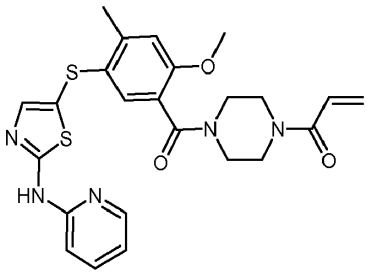
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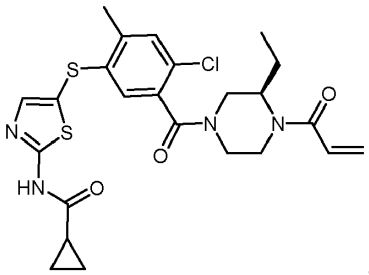
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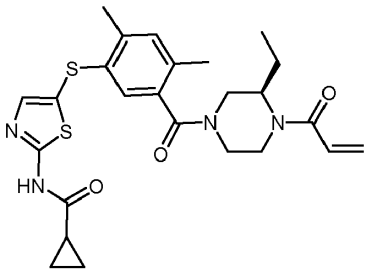
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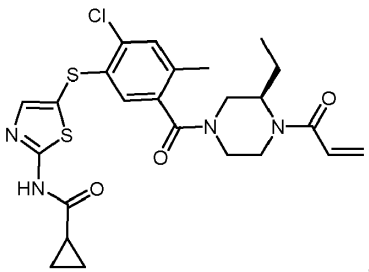
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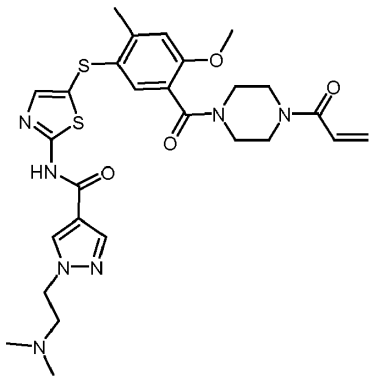
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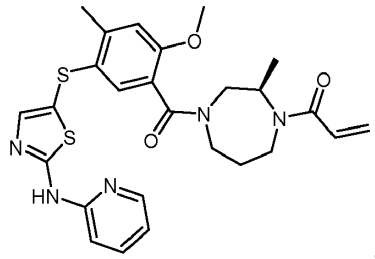
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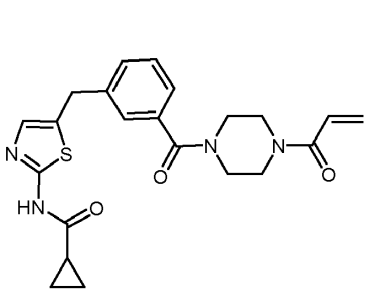
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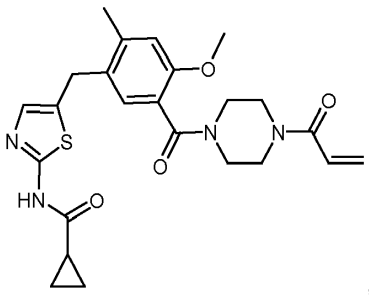
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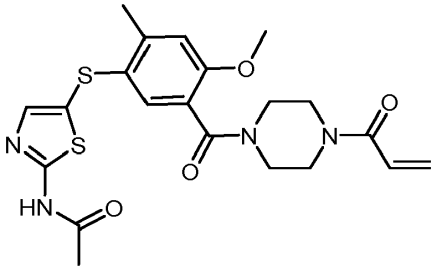
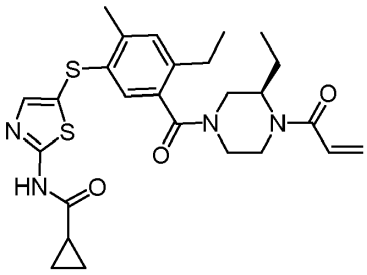


, eller et farmasøytisk akseptabelt salt derav; eller

Alternativ C: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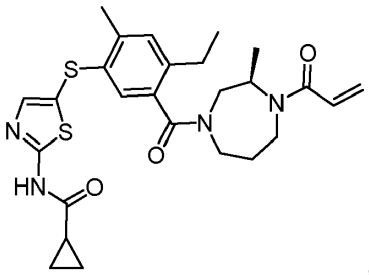
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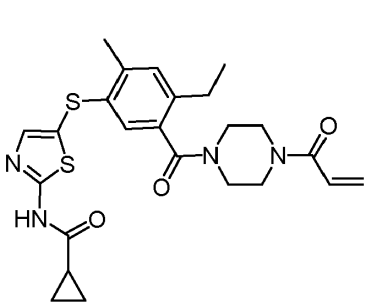
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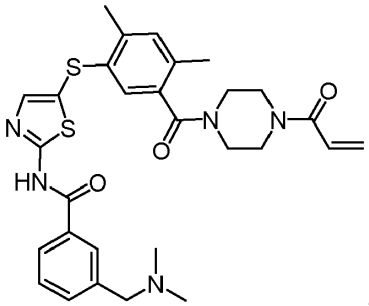
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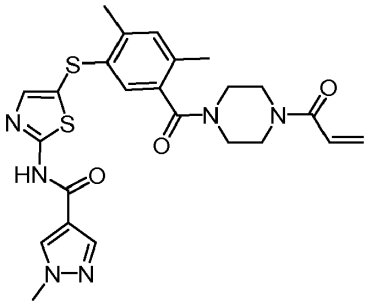
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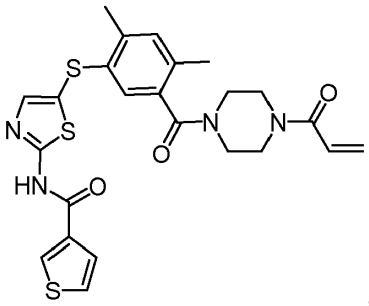
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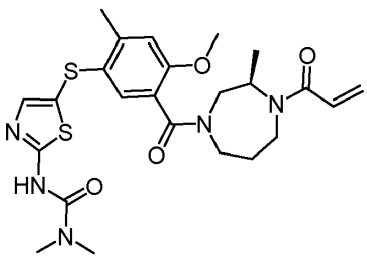
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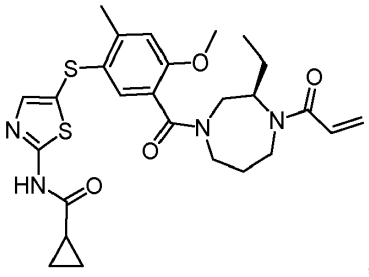
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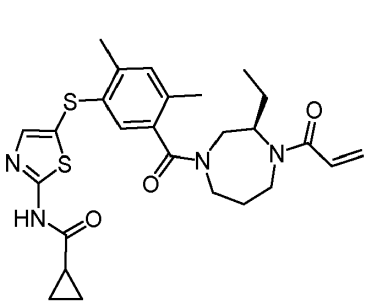
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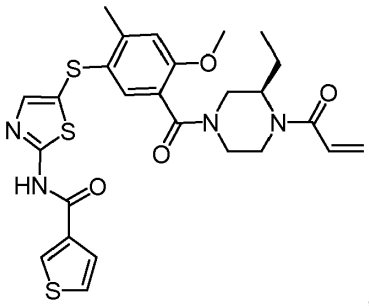
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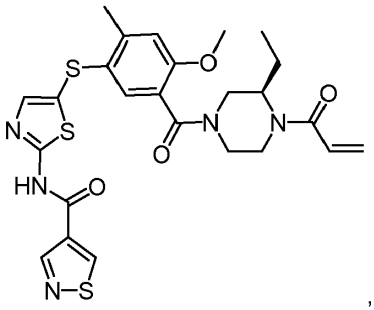
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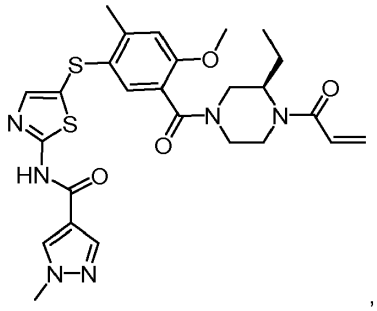
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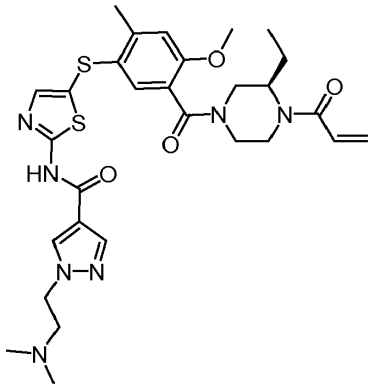
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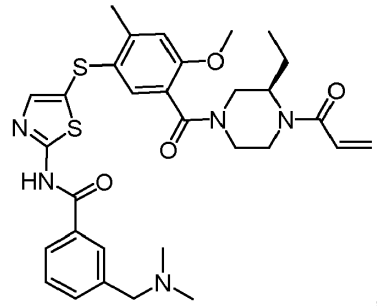
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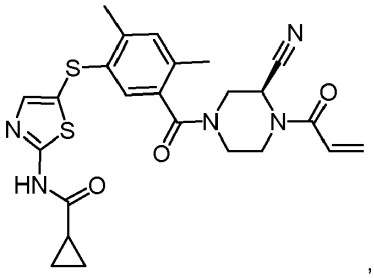
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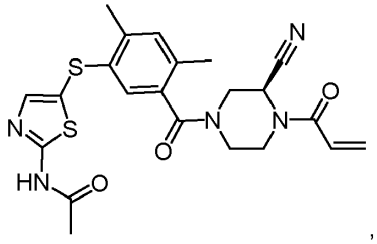
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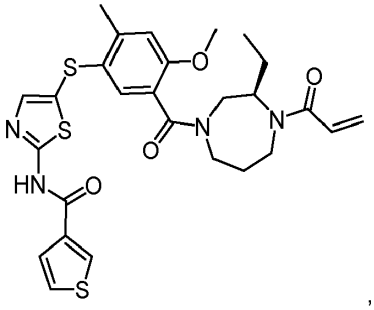
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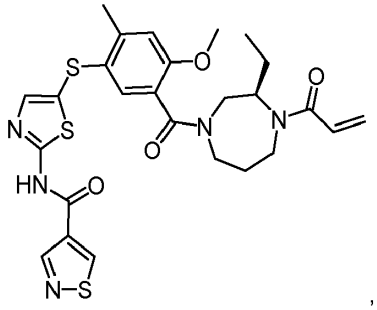
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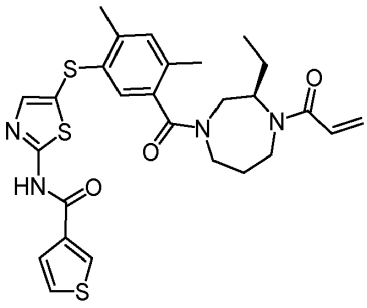
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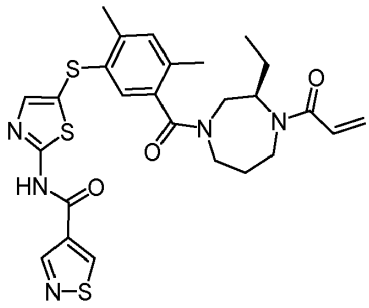
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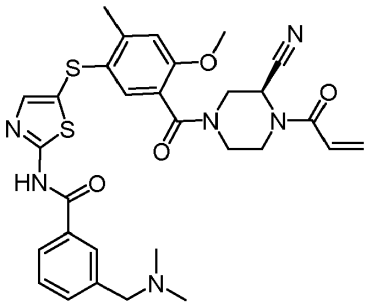
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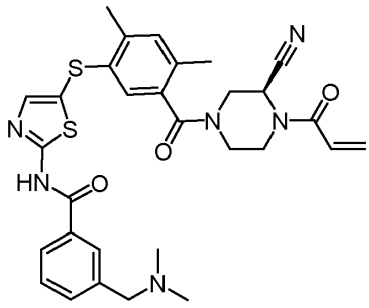
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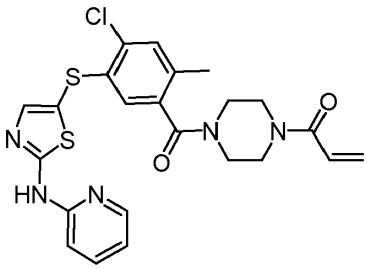
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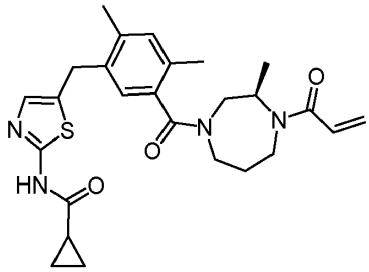
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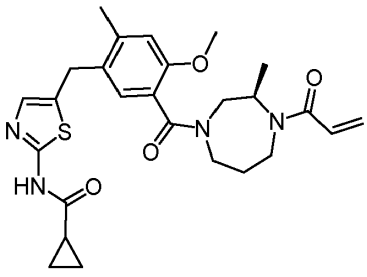
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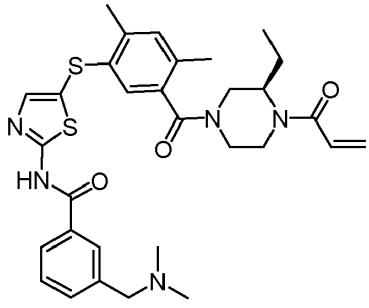
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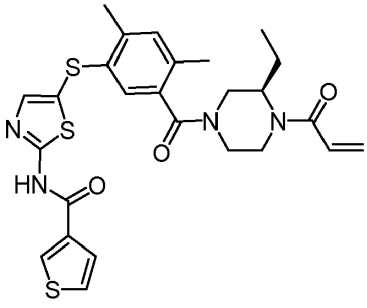
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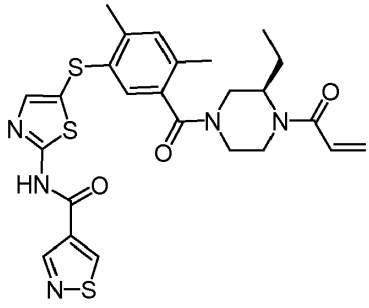
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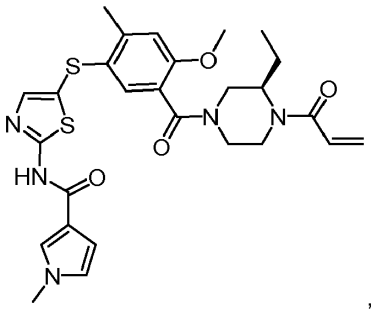
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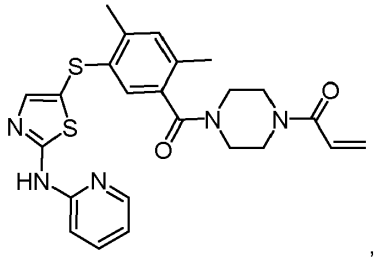
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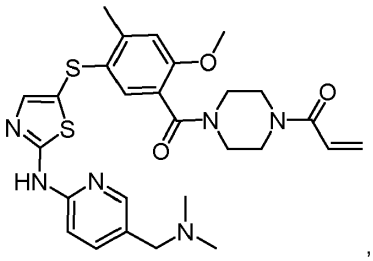
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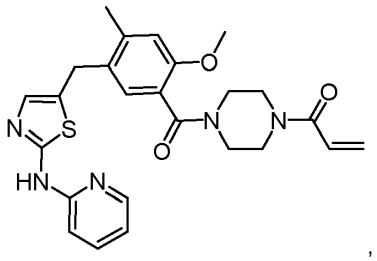
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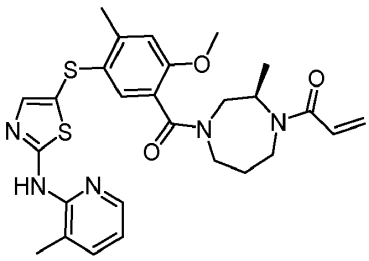
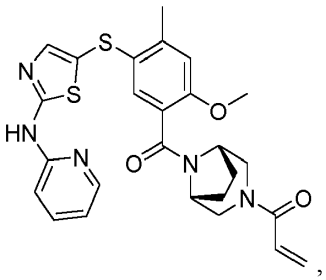

,

eller et farmasøytisk akseptabelt salt derav; eller

Alternativ D: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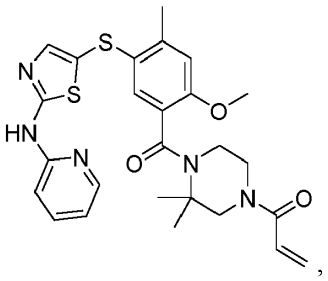
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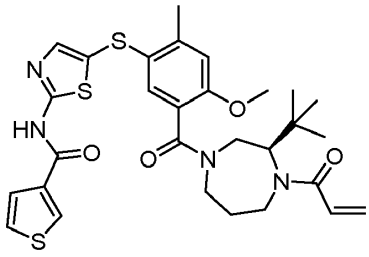
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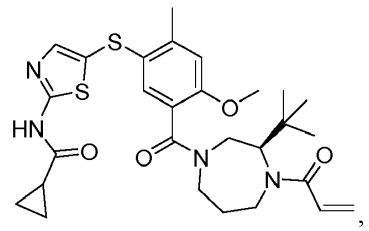
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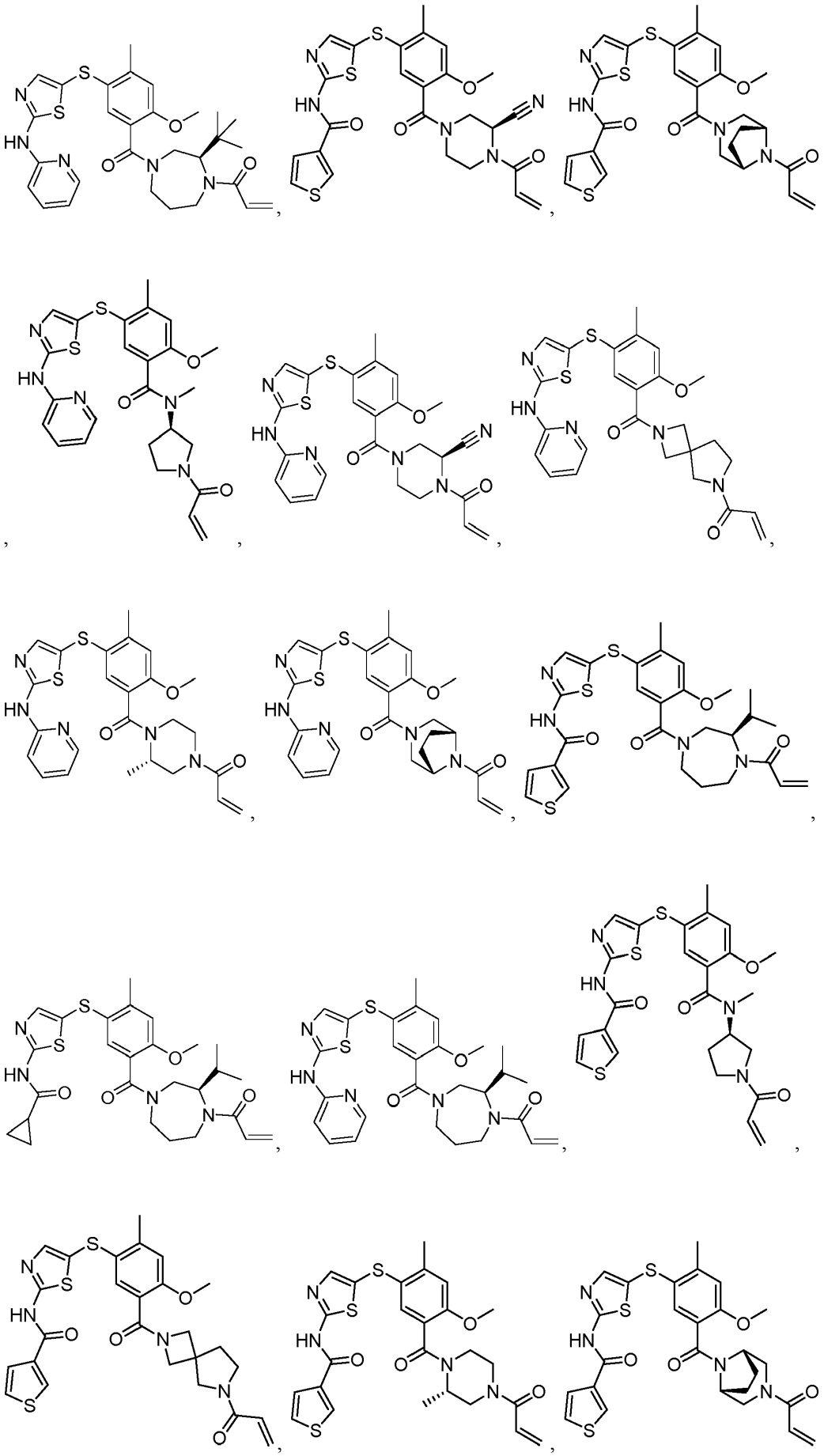

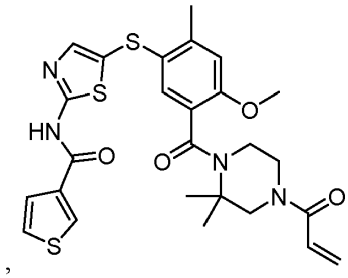
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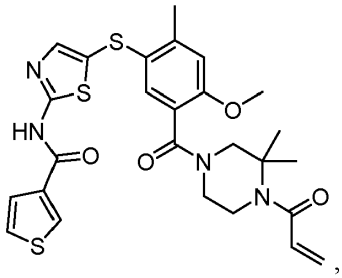
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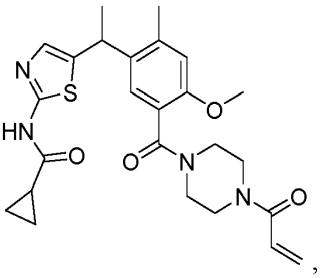
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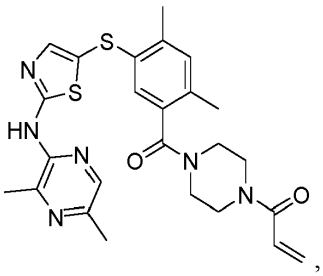
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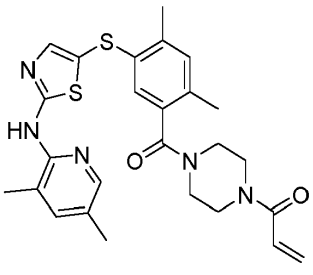
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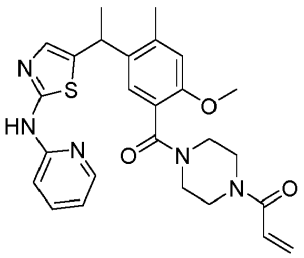
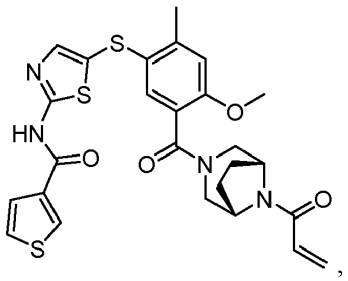

eller

, eller et farmasøytisk akseptabelt salt derav; eller

Alternativ E: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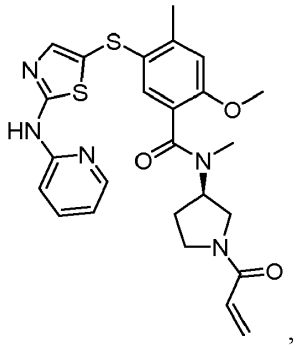
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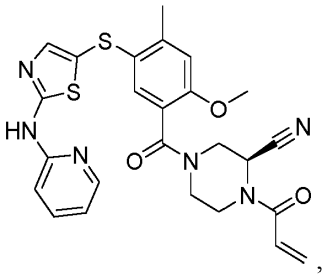
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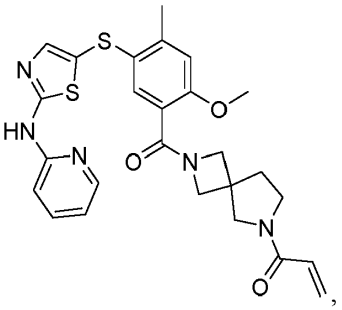
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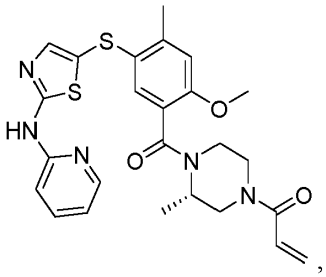
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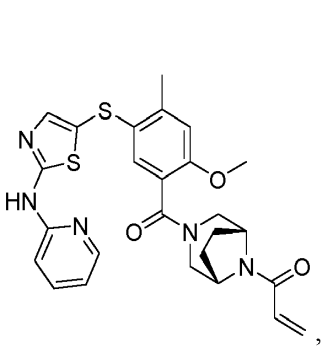
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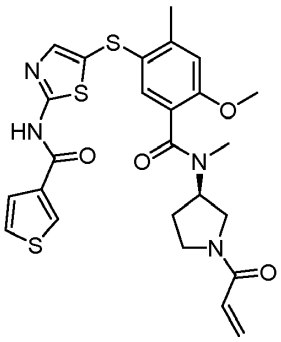
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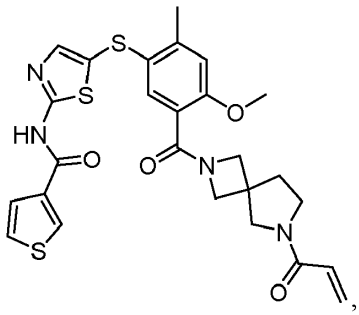
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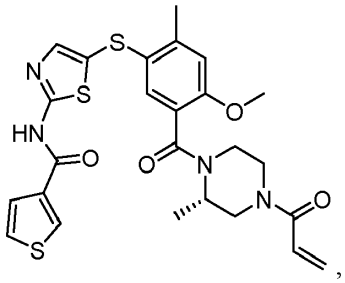
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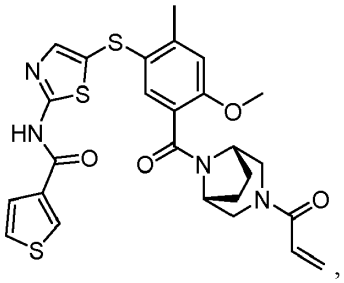
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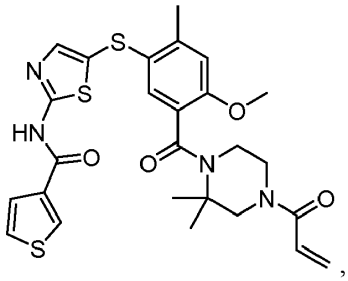
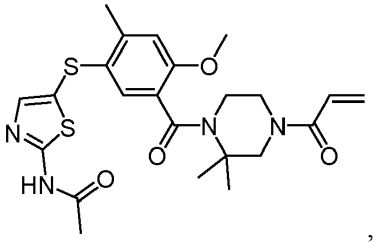
eller


,

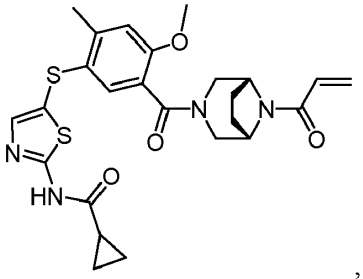
eller et farmasøytisk akseptabelt salt derav; eller

Alternativ F:


,

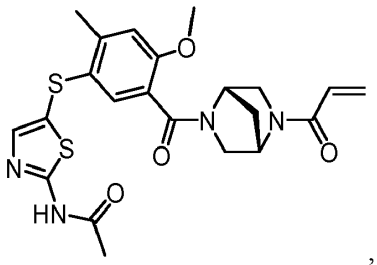
eller et farmasøytisk akseptabelt salt derav; eller

Alternativ G:


,

eller et farmasøytisk akseptabelt salt derav; eller

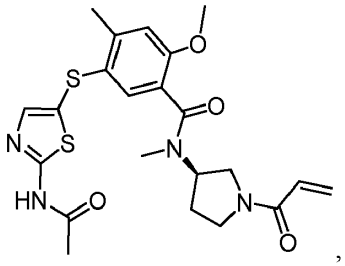
Alternativ H:



,

eller et farmasøytisk akseptabelt salt derav; eller

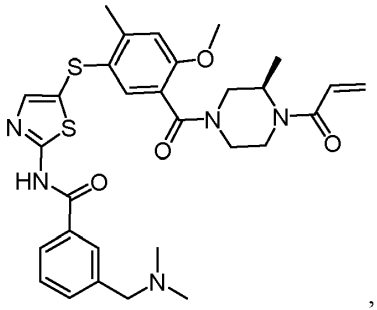
Alternativ I:



,

eller et farmasøytisk akseptabelt salt derav; eller

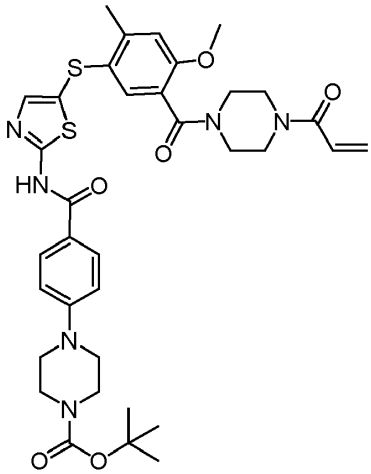
Alternativ J:



,

eller et farmasøytisk akseptabelt salt derav; eller

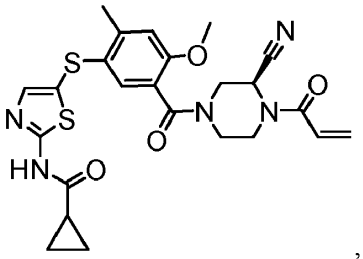
Alternativ K:



,

eller et farmasøytisk akseptabelt salt derav; eller

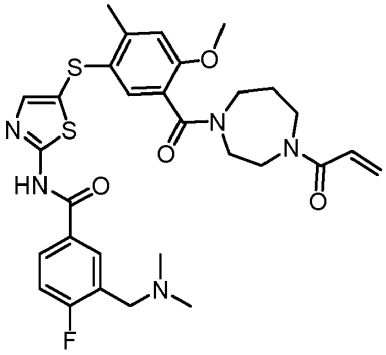
Alternativ L:



,

eller et farmasøytisk akseptabelt salt derav; eller

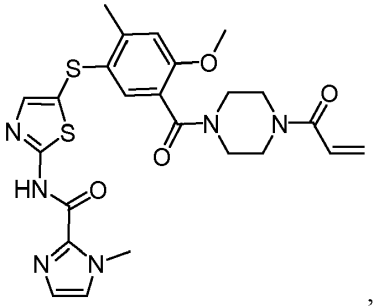
Alternativ M:



,

eller et farmasøytisk akseptabelt salt derav; eller

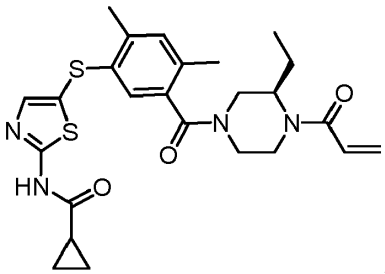
Alternativ N:



,

eller et farmasøytisk akseptabelt salt derav; eller

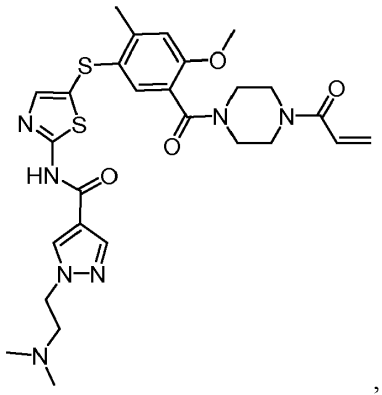
Alternativ O:



,

eller et farmasøytisk akseptabelt salt derav; eller

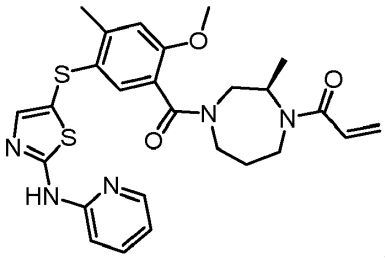
Alternativ P:



,

eller et farmasøytisk akseptabelt salt derav; eller

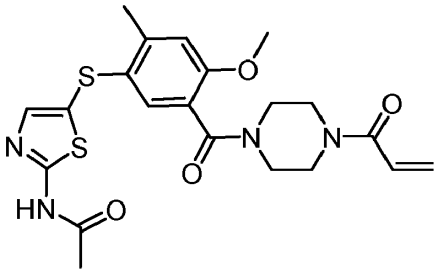
Alternativ Q:



,

eller et farmasøytisk akseptabelt salt derav; eller

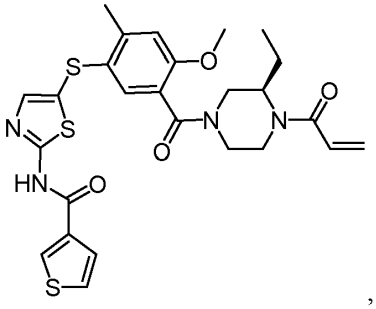
Alternativ R:



,

eller et farmasøytisk akseptabelt salt derav; eller

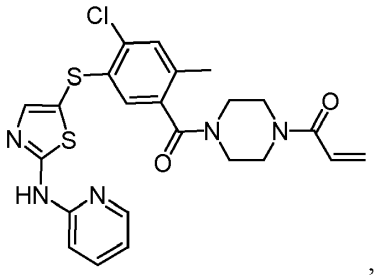
Alternativ S:



,

eller et farmasøytisk akseptabelt salt derav; eller

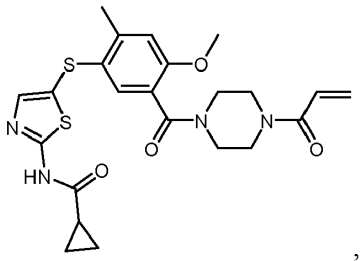
Alternativ T:



,

eller et farmasøytisk akseptabelt salt derav.

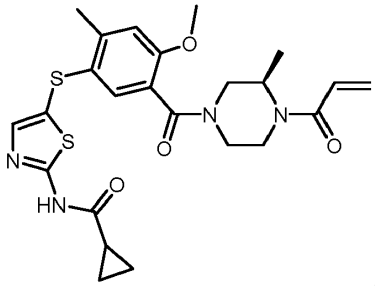
15. Forbindelsen ifølge krav 1, hvori forbindelsen er:



,

eller et farmasøytisk akseptabelt salt derav.

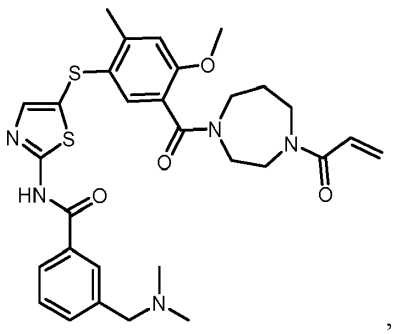
16. Forbindelsen ifølge krav 1, hvori forbindelsen er:



,

eller et farmasøytisk akseptabelt salt derav.

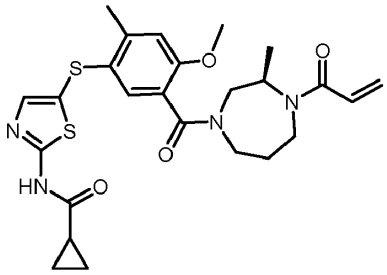
17. Forbindelsen ifølge krav 1, hvori forbindelsen er:



,

eller et farmasøytisk akseptabelt salt derav.

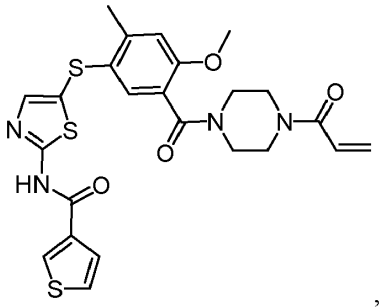
18. Forbindelsen ifølge krav 1, hvori forbindelsen er:



,

eller et farmasøytisk akseptabelt salt derav.

19. Forbindelsen ifølge krav 1, hvori forbindelsen er:



,

eller et farmasøytisk akseptabelt salt derav.

20. Farmasøytisk sammensetning omfattende forbindelsen ifølge et hvilket som helst av kravene **1** til 19 eller et farmasøytisk akseptabelt salt derav og en farmasøytisk akseptabel eksipiens.

21. Forbindelse ifølge et hvilket som helst av kravene **1** til 19 eller et farmasøytisk akseptabelt salt derav, for anvendelse i behandlingen av en kreft;

eventuelt hvori:

Alternativ A:

kreften er T-cellelymfom; eller

Alternativ B:

kreften er T-cellelymfom, kutant T-cellelymfom eller perifert T-cellelymfom.