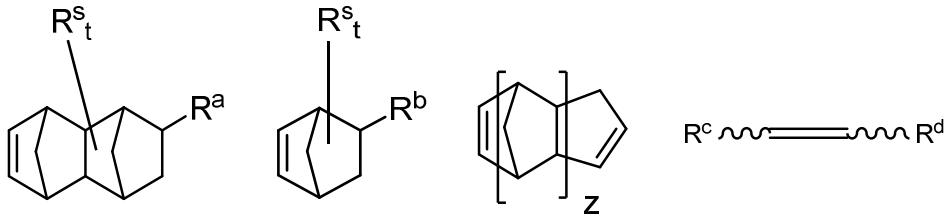
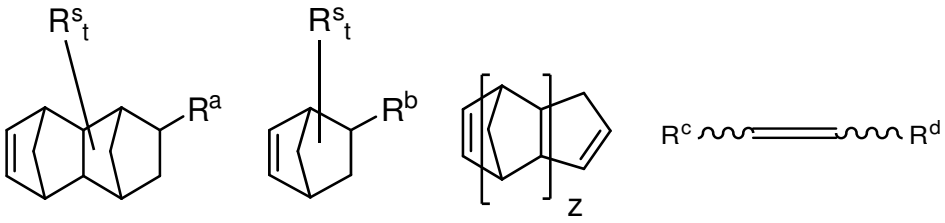
[00030] A coating composition of the disclosure may comprise, consist essentially of, or consist of at least one cyclic olefin selected from the group consisting of **Formulae (I)**, **(II)**, and **(III)**; optionally at least one linear olefin of **Formula (IV)**; at least one coating additive; and at least one curing agent selected from an organometallic complex, a free radical initiator and a cationic initiator, preferably at least one metal carbene metathesis catalyst curing agent. The cyclic olefin of **Formulae (I)**, **(II)**, and **(III)**, and the linear olefin of **Formula (IV)** have the following structures:



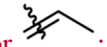
Formula (I), **Formula (II)**, **Formula (III)**, **Formula (IV)**. The cyclic olefins of **Formulae (I)**, **(II)**, and **(III)**, and the linear olefins of **Formula (IV)** are described below.

[00031] The disclosure also provides a method for coating a substrate material, comprising the steps of optionally applying an adhesion promoter onto the substrate surface; applying onto the substrate surface a coating composition comprising, consisting essentially of or consisting of at least one cyclic olefin selected from the group consisting of **Formulae (I)**, **(II)**, and **(III)**; optionally at least one linear olefin of **Formula (IV);** at least one coating additive; and at least one curing agent selected from an organometallic complex, a free radical initiator and a cationic initiator, preferably at least one metal carbene metathesis catalyst curing agent; and curing the coating applied on the substrate surface.

[00031a] In one aspect, the present disclosure refers to a coating composition comprising, consisting essentially of, or consisting of: 5-99.999 wt.%, based on the total weight of the coating composition, of an olefinic resin composition; 0.001 to 95 wt.%, based on the total weight of the coating composition, of an inorganic filler selected from aluminum powder or alloys thereof, aluminum flakes or alloys thereof, micaceous iron oxide, and mixtures thereof; wherein the olefinic resin composition comprises: an olefinic component consisting of: 0-100 wt.%, based on the total weight of the olefinic component, of at least one cyclic olefin selected from the group consisting of **Formulae (I)**, **(II)**, and **(III)**; optionally, 0-20 wt.%, based on the total weight of the olefinic component, of at least one linear olefin of **Formula (IV)**~~;~~, wherein the wt.% of the olefins of Formulae (I), (II), (III), and optionally (IV) add to 100 wt.% of the olefinic component; and at least one metal carbene olefin metathesis catalyst, present in an olefin to catalyst molar ratio of 10,000,000:1 to 1,000:1~~curing agent selected from an organometallic complex, a free radical initiator and a cationic initiator~~; wherein the cyclic olefin of **Formulae (I)**, **(II)**, and **(III)**, and the linear olefin of **Formula (IV)** have the following structures:



Formula (I) , **Formula (II)** , **Formula (III)** , **Formula (IV)** , wherein:

R^a is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted linear or branched C_{2-24} alkenyl, halogen, $-C(O)R^f$, $-CH_2-C(O)R^f$, $-OR^g$, $-CH_2-OR^g$, -CN, $-NO_2$, $-CF_3$, $-P(O)(OR^h)_2$, $-OP(O)(OR^h)_2$, $-S(O)_2OR^h$, $-OS(O)_2R^h$, optionally substituted heterocycle, $-CH_2-$(optionally substituted heterocycle), optionally substituted C_{3-10} cycloalkyl, $-CH_2-$(optionally substituted C_{3-10} cycloalkyl), optionally substituted C_{5-24} aryl, $-CH_2-$(optionally substituted C_{5-24} aryl), optionally substituted C_{3-12} cycloalkenyl, $-CH_2-$(optionally substituted C_{3-12} cycloalkenyl), $C(R^h)(R^i)COOR^j$, $-C(R^h)(R^i)C(O)H$, $-C(R^h)(R^i)C(O)R^k$, $-C(R^h)(R^i)CR^l(OR^m)(OR^n)$, $-C(R^h)(R^i)C(O)NR^oR^p$, $-C(R^h)(R^i)C(O)NR^oOR^n$, or ;

R^b is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted linear or branched C_{2-24} alkenyl, halogen, $-C(O)R^f$, $-CH_2-C(O)R^f$, $-OR^g$, $-CH_2-OR^g$, -CN, $-NO_2$, $-CF_3$, $-P(O)(OR^h)_2$, $-OP(O)(OR^h)_2$, $-Si(OR^k)_3$ $-S(O)_2OR^h$, $-OS(O)_2R^h$, optionally substituted heterocycle, spiro optionally substituted heterocycle, $-CH_2-$(optionally substituted heterocycle), optionally substituted C_{3-10} cycloalkyl, $-CH_2-$(optionally substituted C_{3-10} cycloalkyl), optionally substituted C_{5-24} aryl, $-CH_2-$(optionally substituted C_{5-24} aryl), optionally substituted C_{3-12} cycloalkenyl, $-CH_2-$(optionally substituted C_{3-12} cycloalkenyl), $C(R^h)(R^i)COOR^j$, $-C(R^h)(R^i)C(O)H$, $-C(R^h)(R^i)C(O)R^k$, $-C(R^h)(R^i)CR^l(OR^m)(OR^n)$, $-C(R^h)(R^i)C(O)NR^oR^p$, $-C(R^h)(R^i)C(O)NR^oOR^n$;

R^c is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted linear or branched C_{2-24} alkenyl, halogen, $-C(O)R^f$, $-CH_2-C(O)R^f$, $-OR^g$, $-CH_2-OR^g$, CN, NO_2, $-CF_3$, $-P(O)(OR^h)_2$, $-OP(O)(OR^h)_2$, $-S(O)_2OR^h$, $-OS(O)_2R^h$, optionally substituted heterocycle, $-CH_2-$(optionally substituted heterocycle), optionally substituted C_{3-10} cycloalkyl, $-CH_2-$(optionally substituted C_{3-10} cycloalkyl), optionally substituted C_{5-24} aryl, $-CH_2-$(optionally substituted C_{5-24} aryl), optionally substituted C_{3-12} cycloalkenyl, $-CH_2-$(optionally substituted C_{3-12} cycloalkenyl), $C(R^h)(R^i)COOR^j$, $-C(R^h)(R^i)C(O)H$, $-C(R^h)(R^i)C(O)R^k$, $-C(R^h)(R^i)CR^l(OR^m)(OR^n)$, $-C(R^h)(R^i)C(O)NR^oR^p$, $-C(R^h)(R^i)C(O)NR^oOR^n$;

R^d is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted linear or branched C_{2-24} alkenyl, halogen, $-C(O)R^f$, $-CH_2-C(O)R^f$, $-OR^g$, $-CH_2-OR^g$, CN, NO_2, $-CF_3-P(O)(OR^h)_2$, $-OP(O)(OR^h)_2$, $-S(O)_2OR^h$, $-OS(O)_2R^h$, optionally substituted heterocycle, $-CH_2-$(optionally substituted heterocycle), optionally substituted C_{3-10} cycloalkyl, $-CH_2-$(optionally substituted C_{3-10} cycloalkyl), optionally substituted C_{5-24} aryl, $-CH_2-$(optionally substituted C_{5-24} aryl), optionally substituted C_{3-12}

cycloalkenyl, -CH_2-(optionally substituted C_{3-12} cycloalkenyl), $C(R^h)(R^i)COOR^j$, $-C(R^h)(R^i)C(O)H$, $-C(R^h)(R^i)C(O)R^k$, $-C(R^h)(R^i)CR^l(OR^m)(OR^n)$, $-C(R^h)(R^i)C(O)NR^oR^p$, $-C(R^h)(R^i)C(O)NR^oOR^n$;

each R^s is independently optionally substituted linear or branched C_{1-24} alkyl, optionally substituted linear or branched C_{2-24} alkenyl, halogen, $-C(O)R^f$, $-CH_2-C(O)R^f$, $-OR^g$, $-CH_2-OR^g$, -CN, $-NO_2$, $-CF_3$, $-P(O)(OR^h)_2$, $-OP(O)(OR^h)_2$, $-S(O)_2OR^h$, $-OS(O)_2R^h$, optionally substituted heterocycle, -CH_2-(optionally substituted heterocycle), optionally substituted C_{3-10} cycloalkyl, -CH_2-(optionally substituted C_{3-10} cycloalkyl), optionally substituted C_{5-24} aryl, -CH_2-(optionally substituted C_{5-24} aryl), optionally substituted C_{3-12} cycloalkenyl, -CH_2-(optionally substituted C_{3-12} cycloalkenyl), $C(R^h)(R^i)COOR^j$, $-C(R^h)(R^i)C(O)H$, $-C(R^h)(R^i)C(O)R^k$, $-C(R^h)(R^i)CR^l(OR^m)(OR^n)$, $-C(R^h)(R^i)C(O)NR^oR^p$, $-C(R^h)(R^i)C(O)NR^oOR^n$;

t is 0, 1, 2, 3, 4, 5, or 6;

R^f is OH, OR^k, NR^gR^h, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^g is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, optionally substituted linear or branched C_{2-24} alkenyl, -C(O)-(optionally substituted C_{5-24} aryl), -C(O)-(optionally substituted linear or branched C_{2-24} alkenyl), or optionally substituted C_{3-12} cycloalkenyl;

R^h is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^i is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^j is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^k is optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^l is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-12} cycloalkenyl; R^m is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^n is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^o is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-12} cycloalkenyl;

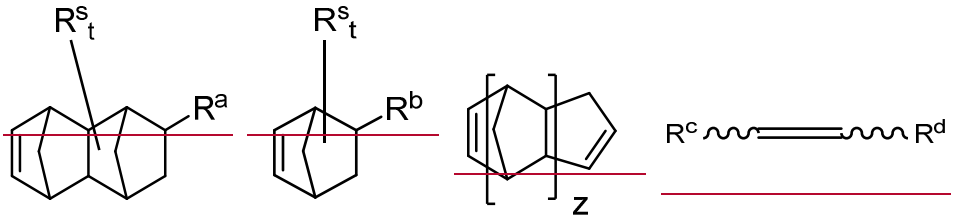
R^p is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-12} cycloalkenyl; and

z is 0, 1, 2, or 3~~;~~

~~wherein the coating composition contains 0.01 to 95 percent by weight of an inorganic filler selected from aluminum powder or alloys thereof, aluminum flakes or alloys thereof, micaceous iron oxide, and mixtures thereof~~.

~~**[00031b]** In a further aspect, the present disclosure refers to a method for coating a substrate material, comprising: optionally applying an adhesion promoter onto the substrate surface; applying onto the substrate surface a coating composition comprising, consisting essentially of or consisting of: at least one cyclic olefin selected from the group consisting of Formulae (I), (II), and (III), optionally at least one linear olefin of Formula (IV); at least one coating additive; and at least one curing agent selected from an organometallic complex, a free radical initiator and a cationic initiator;~~

~~wherein the cyclic olefin of Formulae (I), (II), and (III), and the linear olefin of Formula (IV) have the following structures:~~



Formula (I) ~~,~~ **Formula (II)** ~~,~~ **Formula (III)** ~~,~~ **Formula (IV)** ~~;~~

~~wherein:~~

~~R^a is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted linear or branched C_{2-24} alkenyl, halogen, $C(O)R^f$, $CH_2C(O)R^f$, OR^g, CH_2OR^g, CN, NO_2, CF_3, $P(O)(OR^h)_2$, $OP(O)(OR^h)_2$, $S(O)_2OR^h$, $OS(O)_2R^h$, optionally substituted heterocycle, CH_2(optionally substituted heterocycle), optionally substituted C_{3-10} cycloalkyl, CH_2(optionally substituted C_{3-10} cycloalkyl),~~

optionally substituted C_{5-24} aryl, CH_2 (optionally substituted C_{5-24} aryl), optionally substituted C_{3-12} cycloalkenyl, CH_2 (optionally substituted C_{3-12} cycloalkenyl), $C(R^h)(R^i)COOR^j$, $C(R^h)(R^i)C(O)H$, $C(R^h)(R^i)C(O)R^k$, $C(R^h)(R^i)CR^l(OR^m)(OR^n)$, $C(R^h)(R^i)C(O)NR^oR^p$, $C(R^h)(R^i)C(O)NR^oOR^n$; R^b is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted linear or branched C_{2-24} alkenyl, halogen, $C(O)R^f$, $CH_2C(O)R^f$, OR^g, CH_2OR^g, CN, NO_2, CF_3, $P(O)(OR^h)_2$, $OP(O)(OR^h)_2$, $Si(OR^k)_3$ $S(O)_2OR^h$, $OS(O)_2R^h$, optionally substituted heterocycle, spiro optionally substituted heterocycle, CH_2 (optionally substituted heterocycle), optionally substituted C_{3-10} cycloalkyl, CH_2 (optionally substituted C_{3-10} cycloalkyl), optionally substituted C_{5-24} aryl, CH_2 (optionally substituted C_{5-24} aryl), optionally substituted C_{3-12} cycloalkenyl, CH_2 (optionally substituted C_{3-12} cycloalkenyl), $C(R^h)(R^i)COOR^j$, $C(R^h)(R^i)C(O)H$, $C(R^h)(R^i)C(O)R^k$, $C(R^h)(R^i)CR^l(OR^m)(OR^n)$, $C(R^h)(R^i)C(O)NR^oR^p$, $C(R^h)(R^i)C(O)NR^oOR^n$;

R^c is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted linear or branched C_{2-24} alkenyl, halogen, $C(O)R^f$, $CH_2C(O)R^f$, OR^g, CH_2OR^g, CN, NO_2, CF_3, $P(O)(OR^h)_2$, $OP(O)(OR^h)_2$, $S(O)_2OR^h$, $OS(O)_2R^h$, optionally substituted heterocycle, CH_2 (optionally substituted heterocycle), optionally substituted C_{3-10} cycloalkyl, CH_2 (optionally substituted C_{3-10} cycloalkyl), optionally substituted C_{5-24} aryl, CH_2 (optionally substituted C_{5-24} aryl), optionally substituted C_{3-12} cycloalkenyl, CH_2 (optionally substituted C_{3-12} cycloalkenyl), $C(R^h)(R^i)COOR^j$, $C(R^h)(R^i)C(O)H$, $C(R^h)(R^i)C(O)R^k$, $C(R^h)(R^i)CR^l(OR^m)(OR^n)$, $C(R^h)(R^i)C(O)NR^oR^p$, $C(R^h)(R^i)C(O)NR^oOR^n$;

R^d is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted linear or branched C_{2-24} alkenyl, halogen, $C(O)R^f$, $CH_2C(O)R^f$, OR^g, CH_2OR^g, CN, NO_2, CF_3 $P(O)(OR^h)_2$, $OP(O)(OR^h)_2$, $S(O)_2OR^h$, $OS(O)_2R^h$, optionally substituted heterocycle, CH_2 (optionally substituted heterocycle), optionally substituted C_{3-10} cycloalkyl, CH_2 (optionally substituted C_{3-10} cycloalkyl), optionally substituted C_{5-24} aryl, CH_2 (optionally substituted C_{5-24} aryl), optionally substituted C_{3-12} cycloalkenyl, CH_2 (optionally substituted C_{3-12} cycloalkenyl), $C(R^h)(R^i)COOR^j$, $C(R^h)(R^i)C(O)H$, $C(R^h)(R^i)C(O)R^k$, $C(R^h)(R^i)CR^l(OR^m)(OR^n)$, $C(R^h)(R^i)C(O)NR^oR^p$, $C(R^h)(R^i)C(O)NR^oOR^n$;

each R^s is independently optionally substituted linear or branched C_{1-24} alkyl, optionally substituted linear or branched C_{2-24} alkenyl, halogen, $C(O)R^f$, $CH_2C(O)R^f$, OR^g, CH_2OR^g, CN, NO_2, CF_3, $P(O)(OR^h)_2$, $OP(O)(OR^h)_2$, $S(O)_2OR^h$, $OS(O)_2R^h$, optionally substituted heterocycle, CH_2 (optionally substituted heterocycle), optionally substituted C_{3-10} cycloalkyl, CH_2 (optionally substituted C_{3-10} cycloalkyl), optionally substituted C_{5-24} aryl, CH_2 (optionally substituted C_{5-24} aryl), optionally substituted C_{3-12} cycloalkenyl, CH_2 (optionally substituted C_{3-12} cycloalkenyl), $C(R^h)(R^i)COOR^j$, $C(R^h)(R^i)C(O)H$, $C(R^h)(R^i)C(O)R^k$, $C(R^h)(R^i)CR^l(OR^m)(OR^n)$, $C(R^h)(R^i)C(O)NR^oR^p$, $C(R^h)(R^i)C(O)NR^oOR^n$;

t is 0, 1, 2, 3, 4, 5, or 6;

R^f is OH, OR^k, NR^gR^h, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-12} cycloalkenyl; R^g is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, optionally substituted linear or branched C_{2-24} alkenyl, C(O) (optionally substituted C_{5-24} aryl), C(O) (optionally substituted linear or branched C_{2-24} alkenyl), or optionally substituted C_{3-12} cycloalkenyl;

R^h is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^i is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^j is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^k is optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^l is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^m is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^n is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^o is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^p is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-12} cycloalkenyl; and

z is 0, 1, 2, or 3;

~~and at least one metal carbene metathesis catalyst, and at least one additive; and~~

~~curing at room temperature the coating applied on the substrate surface.~~

[00031b] In yet another aspect, the present disclosure refers to a method for coating a substrate material, comprising: optionally applying an adhesion promoter onto the substrate surface; applying onto the substrate surface a coating composition of the disclosure; and curing at room temperature the coating applied on the substrate surface.

[00032] In yet another aspect, the present disclosure refers to an article of manufacture produced by a method as described herein. In still a further aspect, the present disclosure refers to an article of manufacture comprising a substrate coated with a cured coating composition wherein the coating composition is a coating composition as described herein.

DETAILED DESCRIPTION OF THE DISCLOSURE

Terminology and Definitions

[00033] Unless otherwise indicated, the invention is not limited to specific reactants, substituents, catalysts, metal carbene olefin metathesis catalysts, catalyst compositions, olefins, cyclic olefin compositions, coating compositions, reaction conditions, or the like, as such may vary. It is also to be understood that the terminology used herein is for the purpose of describing particular embodiments only and is not to be interpreted as being limiting.

[00034] In this specification and in the claims that follow, reference will be made to a number of terms, which shall be defined to have the meanings as described herein.

The claimed invention is:

1. A coating composition comprising, consisting essentially of, or consisting of:

5-99.999 wt.%, based on the total weight of the coating composition, of an olefinic resin composition;

0.001 to 95 wt.%, based on the total weight of the coating composition, of an inorganic filler selected from aluminum powder or alloys thereof, aluminum flakes or alloys thereof, micaceous iron oxide, and mixtures thereof;

wherein the olefinic resin composition comprises:

an olefinic component consisting of:

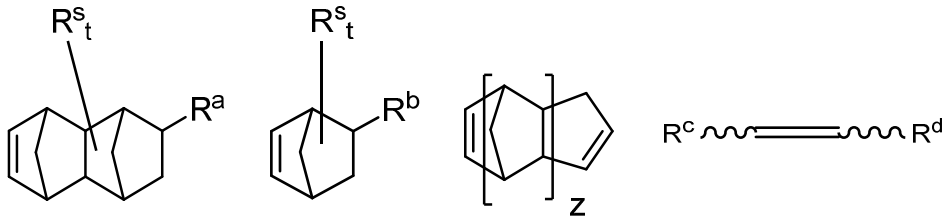
0-100 wt.%, based on the total weight of the olefinic component, of at least one cyclic olefin selected from the group consisting of **Formulae (I)**, **(II)**, and **(III)**;

optionally, 0-20 wt.%, based on the total weight of the olefinic component, of at least one linear olefin of **Formula (IV)**~~;~~,

wherein the wt.% of the olefins of Formulae (I), (II), (III), and optionally (IV) add to 100 wt.% of the olefinic component; and

at least one metal carbene olefin metathesis catalyst, present in an olefin to catalyst molar ratio of 10,000,000:1 to 1,000:1~~curing agent selected from an organometallic complex, a free radical initiator and a cationic initiator~~;

wherein the cyclic olefin of **Formulae (I)**, **(II)**, and **(III)**, and the linear olefin of **Formula (IV)** have the following structures:



Formula (I), **Formula (II)**, **Formula (III)**, **Formula (IV)**, wherein:

R^a is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted linear or branched C_{2-24} alkenyl, halogen, $-C(O)R^f$, $-CH_2-C(O)R^f$, $-OR^g$, $-CH_2-OR^g$, -CN, $-NO_2$, $-CF_3$, $-P(O)(OR^h)_2$, $-OP(O)(OR^h)_2$, $-S(O)_2OR^h$, $-OS(O)_2R^h$, optionally substituted heterocycle, $-CH_2-$(optionally substituted heterocycle), optionally substituted C_{3-10} cycloalkyl, $-CH_2-$(optionally substituted C_{3-10} cycloalkyl), optionally substituted C_{5-24} aryl, $-CH_2-$(optionally substituted C_{5-24} aryl), optionally substituted C_{3-12}

cycloalkenyl, -CH_2-(optionally substituted C_{3-12} cycloalkenyl), $C(R^h)(R^i)COOR^j$, $-C(R^h)(R^i)C(O)H$, $-C(R^h)(R^i)C(O)R^k$, $-C(R^h)(R^i)CR^l(OR^m)(OR^n)$, $-C(R^h)(R^i)C(O)NR^oR^p$, $-C(R^h)(R^i)C(O)NR^oOR^n$, or ;

R^b is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted linear or branched C_{2-24} alkenyl, halogen, $-C(O)R^f$, $-CH_2-C(O)R^f$, $-OR^g$, $-CH_2-OR^g$, -CN, $-NO_2$, $-CF_3$, $-P(O)(OR^h)_2$, $-OP(O)(OR^h)_2$, $-Si(OR^k)_3$ $-S(O)_2OR^h$, $-OS(O)_2R^h$, optionally substituted heterocycle, spiro optionally substituted heterocycle, -CH_2-(optionally substituted heterocycle), optionally substituted C_{3-10} cycloalkyl, -CH_2-(optionally substituted C_{3-10} cycloalkyl), optionally substituted C_{5-24} aryl, -CH_2-(optionally substituted C_{5-24} aryl), optionally substituted C_{3-12} cycloalkenyl, -CH_2-(optionally substituted C_{3-12} cycloalkenyl), $C(R^h)(R^i)COOR^j$, $-C(R^h)(R^i)C(O)H$, $-C(R^h)(R^i)C(O)R^k$, $-C(R^h)(R^i)CR^l(OR^m)(OR^n)$, $-C(R^h)(R^i)C(O)NR^oR^p$, $-C(R^h)(R^i)C(O)NR^oOR^n$;

R^c is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted linear or branched C_{2-24} alkenyl, halogen, $-C(O)R^f$, $-CH_2-C(O)R^f$, $-OR^g$, $-CH_2-OR^g$, CN, NO_2, $-CF_3$, $-P(O)(OR^h)_2$, $-OP(O)(OR^h)_2$, $-S(O)_2OR^h$, $-OS(O)_2R^h$, optionally substituted heterocycle, -CH_2-(optionally substituted heterocycle), optionally substituted C_{3-10} cycloalkyl, -CH_2-(optionally substituted C_{3-10} cycloalkyl), optionally substituted C_{5-24} aryl, -CH_2-(optionally substituted C_{5-24} aryl), optionally substituted C_{3-12} cycloalkenyl, -CH_2-(optionally substituted C_{3-12} cycloalkenyl), $C(R^h)(R^i)COOR^j$, $-C(R^h)(R^i)C(O)H$, $-C(R^h)(R^i)C(O)R^k$, $-C(R^h)(R^i)CR^l(OR^m)(OR^n)$, $-C(R^h)(R^i)C(O)NR^oR^p$, $-C(R^h)(R^i)C(O)NR^oOR^n$;

R^d is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted linear or branched C_{2-24} alkenyl, halogen, $-C(O)R^f$, $-CH_2-C(O)R^f$, $-OR^g$, $-CH_2-OR^g$, CN, NO_2, $-CF_3-P(O)(OR^h)_2$, $-OP(O)(OR^h)_2$, $-S(O)_2OR^h$, $-OS(O)_2R^h$, optionally substituted heterocycle, -CH_2-(optionally substituted heterocycle), optionally substituted C_{3-10} cycloalkyl, -CH_2-(optionally substituted C_{3-10} cycloalkyl), optionally substituted C_{5-24} aryl, -CH_2-(optionally substituted C_{5-24} aryl), optionally substituted C_{3-12} cycloalkenyl, -CH_2-(optionally substituted C_{3-12} cycloalkenyl), $C(R^h)(R^i)COOR^j$, $-C(R^h)(R^i)C(O)H$, $-C(R^h)(R^i)C(O)R^k$, $-C(R^h)(R^i)CR^l(OR^m)(OR^n)$, $-C(R^h)(R^i)C(O)NR^oR^p$, $-C(R^h)(R^i)C(O)NR^oOR^n$;

each R^s is independently optionally substituted linear or branched C_{1-24} alkyl, optionally substituted linear or branched C_{2-24} alkenyl, halogen, $-C(O)R^f$, $-CH_2-C(O)R^f$, $-OR^g$, $-CH_2-OR^g$, -CN, $-NO_2$, $-CF_3$, $-P(O)(OR^h)_2$, $-OP(O)(OR^h)_2$, $-S(O)_2OR^h$, $-OS(O)_2R^h$, optionally substituted heterocycle, -CH_2-(optionally substituted heterocycle), optionally substituted C_{3-10} cycloalkyl, -CH_2-(optionally substituted C_{3-10} cycloalkyl), optionally substituted C_{5-24} aryl, -CH_2-(optionally substituted C_{5-24} aryl), optionally substituted C_{3-12} cycloalkenyl, -CH_2-(optionally substituted C_{3-12} cycloalkenyl), $C(R^h)(R^i)COOR^j$, $-C(R^h)(R^i)C(O)H$, $-C(R^h)(R^i)C(O)R^k$, $-C(R^h)(R^i)CR^l(OR^m)(OR^n)$, $-C(R^h)(R^i)C(O)NR^oR^p$, $-C(R^h)(R^i)C(O)NR^oOR^n$;

t is 0, 1, 2, 3, 4, 5, or 6;

R^f is OH, OR^k, NR^gR^h, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^g is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, optionally substituted linear or branched C_{2-24} alkenyl, -C(O)-(optionally substituted C_{5-24} aryl), -C(O)-(optionally substituted linear or branched C_{2-24} alkenyl), or optionally substituted C_{3-12} cycloalkenyl;

R^h is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^i is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^j is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^k is optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^l is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^m is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^n is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^o is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^p is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-12} cycloalkenyl; and

z is 0, 1, 2, or 3~~;~~

~~wherein the coating composition contains 0.01 to 95 percent by weight of an inorganic filler selected from aluminum powder or alloys thereof, aluminum flakes or alloys thereof, micaceous iron oxide, and mixtures thereof~~.

2. The coating composition of claim 1, wherein:

R^a is H, optionally substituted linear or branched C_{1-12} alkyl, optionally substituted linear or branched C_{2-6} alkenyl, halogen, $-C(O)R^f$, $-OR^g$, -CN, $-NO_2$, $-CF_3$, $-P(O)(OR^h)_2$, $-OP(O)(OR^h)_2$, $-S(O)_2OR^h$, $-OS(O)_2R^h$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{6-10} aryl, optionally substituted C_{3-12} cycloalkenyl, or ;

R^b is H, optionally substituted linear or branched C_{1-12} alkyl, optionally substituted linear or branched C_{2-6} alkenyl, halogen, $-C(O)R^f$, $-OR^g$, -CN, $-NO_2$, $-CF_3$, $-P(O)(OR^h)_2$, $-OP(O)(OR^h)_2$, $-S(O)_2OR^h$, $-OS(O)_2R^h$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{6-10} aryl, optionally substituted C_{3-12} cycloalkenyl;

R^c is H, optionally substituted linear or branched C_{1-12} alkyl, optionally substituted linear or branched C_{2-6} alkenyl, halogen, $-C(O)R^f$, $-OR^g$, -CN, $-NO_2$, $-CF_3$, $-P(O)(OR^h)_2$, $-OP(O)(OR^h)_2$, $-S(O)_2OR^h$, $-OS(O)_2R^h$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{6-10} aryl, optionally substituted C_{3-12} cycloalkenyl;

R^d is H, optionally substituted linear or branched C_{1-12} alkyl, optionally substituted linear or branched C_{2-6} alkenyl, halogen, $-C(O)R^f$, $-OR^g$, -CN, $-NO_2$, $-CF_3$, $-P(O)(OR^h)_2$, $-OP(O)(OR^h)_2$, $-S(O)_2OR^h$, $-OS(O)_2R^h$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{6-10} aryl, optionally substituted C_{3-12} cycloalkenyl;

t is 0;

R^f is OH, OR^k, NR^gR^h, optionally substituted C_{1-12} alkyl, optionally substituted C_{3-8} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{6-10} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^g is H, optionally substituted C_{1-12} alkyl, optionally substituted C_{3-8} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{6-10} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^h is H, optionally substituted C_{1-12} alkyl, optionally substituted C_{3-8} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{6-10} aryl, or optionally substituted C_{3-12} cycloalkenyl;

z is 2;

R^i is H, optionally substituted C_{1-12} alkyl, optionally substituted C_{3-8} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{6-10} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^j is H, optionally substituted C_{1-12} alkyl, optionally substituted C_{3-8} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{6-10} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^k is optionally substituted C_{1-12} alkyl, optionally substituted C_{3-8} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{6-10} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^l is H, optionally substituted C_{1-12} alkyl, optionally substituted C_{3-8} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{6-10} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^m is H, optionally substituted C_{1-12} alkyl, optionally substituted C_{3-8} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{6-10} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^n is H, optionally substituted C_{1-12} alkyl, optionally substituted C_{3-8} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{6-10} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^o is H, optionally substituted C_{1-12} alkyl, optionally substituted C_{3-8} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{6-10} aryl, or optionally substituted C_{3-12} cycloalkenyl; and

R^p is H, optionally substituted C_{1-12} alkyl, optionally substituted C_{3-8} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{6-10} aryl, or optionally substituted C_{3-12} cycloalkenyl.

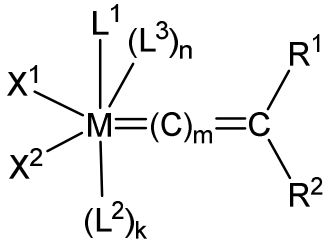
3. The coating composition of claim 1 or claim 2, wherein

the cyclic olefin of formula (I) is ENB-DDA, HNB-DDA, or a mixture thereof;

the cyclic olefin of formula (II) is HENB, NBCbSi, ONB, NB-methanol, NB-dimethanol, NB-epoxide, NB-triethoxysilane, NB-Fluorocarbon (1), NB-fluorocarbon (2), NB-fluorocarbon (3), or a mixture thereof; and

the cyclic olefin of formula (III) is TCPD, DCPD, or a mixture thereof.

4. The coating composition of any one of claims 1-3, wherein the ~~at least one curing agent is~~ at least one metal carbene olefin metathesis catalyst ~~having~~ has the structure of **Formula (1)**:



Formula (1),

wherein:

M is ruthenium;

L^1, L^2, and L^3 are independently neutral electron donor ligands;

n is 0 or 1;

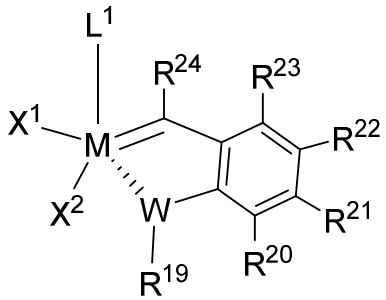
m is 0, 1, or 2;

k is 0 or 1;

X^1 and X^2 are independently anionic ligands; and

R^1 and R^2 are independently hydrogen, optionally substituted hydrocarbyl, optionally substituted heteroatom-containing hydrocarbyl; or R^1 and R^2 are linked together to form one or more cyclic groups.

5. The coating composition of any of claims 1-4, wherein the ~~at least one curing agent is~~ at least one metal carbene olefin metathesis catalyst ~~having~~ has the structure of **Formula (2)**



Formula (2)

wherein:

M is ruthenium;

L^1 is a neutral electron donor ligand;

X^1 and X^2 are independently anionic ligands;

W is O, halogen, NR^{33} or S;

R^{19} is H, optionally substituted C_{1-24} alkyl, $-C(R^{34})(R^{35})COOR^{36}$, $-C(R^{34})(R^{35})C(O)H$, $-C(R^{34})(R^{35})C(O)R^{37}$, $-C(R^{34})(R^{35})CR^{38}(OR^{39})(OR^{40})$, $-C(R^{34})(R^{35})C(O)NR^{41}R^{42}$, $-C(R^{34})(R^{35})C(O)NR^{41}OR^{40}$, $-C(O)R^{25}$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl, optionally substituted C_{3-8} cycloalkenyl, or when W is NR^{33}, then R^{19} together with R^{33} can form an optionally substituted heterocyclic ring or when W is halogen then R^{19} is nil;

R^{20} is H, optionally substituted C_{1-24} alkyl, halogen, $-C(O)R^{25}$, $-OR^{26}$, CN, $-NR^{27}R^{28}$, NO_2, $-CF_3$, $-S(O)_xR^{29}$, $-P(O)(OH)_2$, $-OP(O)(OH)_2$, $-SR^{31}$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl, optionally substituted C_{3-8} cycloalkenyl or together with R^{21} can form a polycyclic ring;

R^{21} is H, optionally substituted C_{1-24} alkyl, halogen, $-C(O)R^{25}$, $-OR^{26}$, CN, $-NR^{27}R^{28}$, NO_2, $-CF_3$, $-S(O)_xR^{29}$, $-P(O)(OH)_2$, $-OP(O)(OH)_2$, $-SR^{31}$, optionally substituted heterocycle, optionally substituted C_{3-}

$_{10}$ cycloalkyl, optionally substituted C_{5-24} aryl, optionally substituted C_{3-8} cycloalkenyl or together with R^{20} or together with R^{22} can form a polycyclic ring;

R^{22} is H, optionally substituted C_{1-24} alkyl, halogen, - $C(O)R^{25}$, - OR^{26}, CN, - $NR^{27}R^{28}$, NO_2, -CF_3, –$S(O)_xR^{29}$, -$P(O)(OH)_2$, -$OP(O)(OH)_2$, -SR^{31}, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl, optionally substituted C_{3-8} cycloalkenyl or together with R^{21} or together with R^{23} can form a polycyclic ring;

R^{23} is H, optionally substituted C_{1-24} alkyl, halogen, - $C(O)R^{25}$, - OR^{26}, CN, - $NR^{27}R^{28}$, NO_2, -CF_3, –$S(O)_xR^{29}$, -$P(O)(OH)_2$, -$OP(O)(OH)_2$, -SR^{31}, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl, optionally substituted C_{3-8} cycloalkenyl or together with R^{22} can form a polycyclic ring;

R^{24} is H, optionally substituted C_{1-24} alkyl, halogen, - $C(O)R^{25}$, - OR^{26}, CN, - $NR^{27}R^{28}$, NO_2, -CF_3, –$S(O)_xR^{29}$, -$P(O)(OH)_2$, -$OP(O)(OH)_2$, -SR^{31}, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl or optionally substituted C_{3-8} cycloalkenyl;

R^{25} is OH, OR^{30}, $NR^{27}R^{28}$, optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl or optionally substituted C_{3-8} cycloalkenyl;

R^{26} is H, optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl or optionally substituted C_{3-8} cycloalkenyl;

R^{27} is H, optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl or optionally substituted C_{3-8} cycloalkenyl;

R^{28} is H, optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl or optionally substituted C_{3-8} cycloalkenyl;

R^{29} is H, optionally substituted C_{1-24} alkyl, OR^{26}, - $NR^{27}R^{28}$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl or optionally substituted C_{3-8} cycloalkenyl;

R^{30} is optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl or optionally substituted C_{3-8} cycloalkenyl;

R^{31} is H, optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl or optionally substituted C_{3-8} cycloalkenyl;

R^{33} is H, optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl or optionally substituted C_{3-8} cycloalkenyl;

R^{34} is H, optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl or optionally substituted C_{3-8} cycloalkenyl;

R^{35} is H, optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl or optionally substituted C_{3-8} cycloalkenyl;

R^{36} is H, optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl or optionally substituted C_{3-8} cycloalkenyl;

R^{37} is optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl or optionally substituted C_{3-8} cycloalkenyl;

R^{38} is H, optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl or optionally substituted C_{3-8} cycloalkenyl;

R^{39} is H, optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl or optionally substituted C_{3-8} cycloalkenyl;

R^{40} is H, optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl or optionally substituted C_{3-8} cycloalkenyl;

R^{41} is H, optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl or optionally substituted C_{3-8} cycloalkenyl;

R^{42} is H, optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl or optionally substituted C_{3-8} cycloalkenyl; and

x is 1 or 2.

6. The coating composition of one of claims 1-45, wherein the coating composition comprises at least one cyclic olefin represented selected from the group consisting of **Formulae (I)** and **(II)**.

7. The coating composition of any of claims 1-45, wherein the coating composition comprises at least one cyclic olefin selected from the group consisting of **Formulae (I)** and **(III)**.

8. The coating composition of any of claims 1-45, wherein the coating composition comprises at least one cyclic olefin selected from the group consisting of **Formulae (II)** and **(III)**.

9. The coating composition of any of claims 1-8, wherein the coating composition further comprises a coating additive selected from the group consisting of a gel modifier, a hardness modulator, an impact modifier, an antioxidant, an antiozonant, a filler, a binder, a thixotrope, a rheology modifier, a dispersant, a wetting agent, a plasticizer, a pigment, a flame retardant, a dye, fibers, a reinforcement material, a coupling agent, a UV absorber, a UV light stabilizer, a film former, a lubricant, an adhesion promoter and mixtures thereof.

10. The coating composition of claim 9, wherein the coating additive is selected from the group consisting of a filler, rheology modifier, a coupling agent, a UV absorber, a UV light stabilizer, an adhesion promoter and mixtures thereof.

11. The coating composition of any of claims 1-10, wherein the inorganic filler is selected from aluminum powder or alloys thereof, aluminum flakes or alloys thereof, and mixtures thereof.

~~12. A method for coating a substrate material, comprising:~~

~~optionally applying an adhesion promoter onto the substrate surface;~~

~~applying onto the substrate surface a coating composition comprising, consisting essentially of or consisting of:~~

~~at least one cyclic olefin selected from the group consisting of **Formulae (I), (II), and (III),**~~

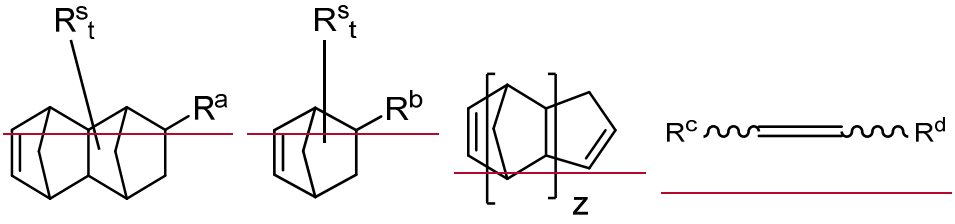
~~optionally at least one linear olefin of **Formula (IV);**~~

~~at least one coating additive;~~

~~and~~

~~at least one curing agent selected from an organometallic complex, a free radical initiator and a cationic initiator;~~

~~wherein the cyclic olefin of **Formulae (I), (II), and (III),** and the linear olefin of **Formula (IV)** have the following structures:~~



Formula (I) **Formula (II)** **Formula (III)** **Formula (IV)**

~~wherein:~~

~~R^a is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted linear or branched C_{2-24} alkenyl, halogen, $C(O)R^f$, $CH_2C(O)R^f$, OR^g, CH_2OR^g, CN, NO_2, CF_3, $P(O)(OR^h)_2$, $OP(O)(OR^h)_2$, $S(O)_2OR^h$, $OS(O)_2R^h$, optionally substituted heterocycle, CH_2(optionally substituted heterocycle), optionally substituted C_{3-10} cycloalkyl, CH_2(optionally substituted C_{3-10} cycloalkyl), optionally substituted C_{5-24} aryl, CH_2(optionally substituted C_{5-24} aryl), optionally substituted C_{3-12}~~

cycloalkenyl, CH_2-(optionally substituted C_{3-12}-cycloalkenyl), $C(R^h)(R^i)COOR^j$, $C(R^h)(R^i)C(O)H$, $C(R^h)(R^i)C(O)R^k$, $C(R^h)(R^i)CR^l(OR^m)(OR^n)$, $C(R^h)(R^i)C(O)NR^oR^p$, $C(R^h)(R^i)C(O)NR^oOR^n$;

R^b is H, optionally substituted linear or branched C_{1-24}-alkyl, optionally substituted linear or branched C_{2-24}-alkenyl, halogen, $C(O)R^f$, CH_2-$C(O)R^f$, OR^g, CH_2-OR^g, CN, NO_2, CF_3, $P(O)(OR^h)_2$, $OP(O)(OR^h)_2$, $Si(OR^k)_3$, $S(O)_2OR^h$, $OS(O)_2R^h$, optionally substituted heterocycle, spiro optionally substituted heterocycle, CH_2-(optionally substituted heterocycle), optionally substituted C_{3-10}-cycloalkyl, CH_2-(optionally substituted C_{3-10}-cycloalkyl), optionally substituted C_{5-24}-aryl, CH_2-(optionally substituted C_{5-24}-aryl), optionally substituted C_{3-12}-cycloalkenyl, CH_2-(optionally substituted C_{3-12}-cycloalkenyl), $C(R^h)(R^i)COOR^j$, $C(R^h)(R^i)C(O)H$, $C(R^h)(R^i)C(O)R^k$, $C(R^h)(R^i)CR^l(OR^m)(OR^n)$, $C(R^h)(R^i)C(O)NR^oR^p$, $C(R^h)(R^i)C(O)NR^oOR^n$;

R^c is H, optionally substituted linear or branched C_{1-24}-alkyl, optionally substituted linear or branched C_{2-24}-alkenyl, halogen, $C(O)R^f$, CH_2-$C(O)R^f$, OR^g, CH_2-OR^g, CN, NO_2, CF_3, $P(O)(OR^h)_2$, $OP(O)(OR^h)_2$, $S(O)_2OR^h$, $OS(O)_2R^h$, optionally substituted heterocycle, CH_2-(optionally substituted heterocycle), optionally substituted C_{3-10}-cycloalkyl, CH_2-(optionally substituted C_{3-10}-cycloalkyl), optionally substituted C_{5-24}-aryl, CH_2-(optionally substituted C_{5-24}-aryl), optionally substituted C_{3-12}-cycloalkenyl, CH_2-(optionally substituted C_{3-12}-cycloalkenyl), $C(R^h)(R^i)COOR^j$, $C(R^h)(R^i)C(O)H$, $C(R^h)(R^i)C(O)R^k$, $C(R^h)(R^i)CR^l(OR^m)(OR^n)$, $C(R^h)(R^i)C(O)NR^oR^p$, $C(R^h)(R^i)C(O)NR^oOR^n$;

R^d is H, optionally substituted linear or branched C_{1-24}-alkyl, optionally substituted linear or branched C_{2-24}-alkenyl, halogen, $C(O)R^f$, CH_2-$C(O)R^f$, OR^g, CH_2-OR^g, CN, NO_2, CF_3, $P(O)(OR^h)_2$, $OP(O)(OR^h)_2$, $S(O)_2OR^h$, $OS(O)_2R^h$, optionally substituted heterocycle, CH_2-(optionally substituted heterocycle), optionally substituted C_{3-10}-cycloalkyl, CH_2-(optionally substituted C_{3-10}-cycloalkyl), optionally substituted C_{5-24}-aryl, CH_2-(optionally substituted C_{5-24}-aryl), optionally substituted C_{3-12}-cycloalkenyl, CH_2-(optionally substituted C_{3-12}-cycloalkenyl), $C(R^h)(R^i)COOR^j$, $C(R^h)(R^i)C(O)H$, $C(R^h)(R^i)C(O)R^k$, $C(R^h)(R^i)CR^l(OR^m)(OR^n)$, $C(R^h)(R^i)C(O)NR^oR^p$, $C(R^h)(R^i)C(O)NR^oOR^n$;

each R^s is independently optionally substituted linear or branched C_{1-24}-alkyl, optionally substituted linear or branched C_{2-24}-alkenyl, halogen, $-C(O)R^f$, $-CH_2$-$C(O)R^f$, $-OR^g$, $-CH_2$-OR^g, -CN, $-NO_2$, $-CF_3$, $-P(O)(OR^h)_2$, $-OP(O)(OR^h)_2$, $-S(O)_2OR^h$, $-OS(O)_2R^h$, optionally substituted heterocycle, CH_2-(optionally substituted heterocycle), optionally substituted C_{3-10}-cycloalkyl, CH_2-(optionally substituted C_{3-10}-cycloalkyl), optionally substituted C_{5-24}-aryl, CH_2-(optionally substituted C_{5-24}-aryl), optionally substituted C_{3-12}-cycloalkenyl, CH_2-(optionally substituted C_{3-12}-cycloalkenyl), $C(R^h)(R^i)COOR^j$, $C(R^h)(R^i)C(O)H$, $C(R^h)(R^i)C(O)R^k$, $C(R^h)(R^i)CR^l(OR^m)(OR^n)$, $C(R^h)(R^i)C(O)NR^oR^p$, $C(R^h)(R^i)C(O)NR^oOR^n$;

t is 0, 1, 2, 3, 4, 5, or 6;

R^f is OH, OR^k, NR^gR^h, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^g is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, optionally substituted linear or branched C_{2-24} alkenyl, C(O) (optionally substituted C_{5-24} aryl), C(O) (optionally substituted linear or branched C_{2-24} alkenyl), or optionally substituted C_{3-12} cycloalkenyl;

R^h is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^i is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^j is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^k is optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^l is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^m is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^n is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^o is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^p is H, optionally substituted linear or branched C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-12} cycloalkenyl; and

z is 0, 1, 2, or 3;

and at least one metal carbene metathesis catalyst, and at least one additive; and

curing at room temperature the coating applied on the substrate surface.

13. The method of claim 12, wherein:

R^a is H, optionally substituted linear or branched C_{1-12} alkyl, optionally substituted linear or branched C_{2-6} alkenyl, halogen, $C(O)R^f$, OR^g, CN, NO_2, CF_3, $P(O)(OR^h)_2$, $OP(O)(OR^h)_2$, $S(O)_2OR^h$, $OS(O)_2R^h$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{6-10} aryl, optionally substituted C_{3-12} cycloalkenyl;

R^b is H, optionally substituted linear or branched C_{1-12} alkyl, optionally substituted linear or branched C_{2-6} alkenyl, halogen, $C(O)R^f$, OR^g, CN, NO_2, CF_3, $P(O)(OR^h)_2$, $OP(O)(OR^h)_2$, $S(O)_2OR^h$, $OS(O)_2R^h$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{6-10} aryl, optionally substituted C_{3-12} cycloalkenyl;

R^c is H, optionally substituted linear or branched C_{1-12} alkyl, optionally substituted linear or branched C_{2-6} alkenyl, halogen, $C(O)R^f$, OR^g, CN, NO_2, CF_3, $P(O)(OR^h)_2$, $OP(O)(OR^h)_2$, $S(O)_2OR^h$, $OS(O)_2R^h$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{6-10} aryl, optionally substituted C_{3-12} cycloalkenyl;

R^d is H, optionally substituted linear or branched C_{1-12} alkyl, optionally substituted linear or branched C_{2-6} alkenyl, halogen, $C(O)R^f$, OR^g, CN, NO_2, CF_3, $P(O)(OR^h)_2$, $OP(O)(OR^h)_2$, $S(O)_2OR^h$, $OS(O)_2R^h$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{6-10} aryl, optionally substituted C_{3-12} cycloalkenyl;

t is 0;

R^f is OH, OR^k, NR^gR^h, optionally substituted C_{1-12} alkyl, optionally substituted C_{3-8} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{6-10} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^g is H, optionally substituted C_{1-12} alkyl, optionally substituted C_{3-8} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{6-10} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^h is H, optionally substituted C_{1-12} alkyl, optionally substituted C_{3-8} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{6-10} aryl, or optionally substituted C_{3-12} cycloalkenyl;

z is 2;

R^i is H, optionally substituted C_{1-12} alkyl, optionally substituted C_{3-8} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{6-10} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^j is H, optionally substituted C_{1-12} alkyl, optionally substituted C_{3-8} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{6-10} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^k is optionally substituted C_{1-12} alkyl, optionally substituted C_{3-8} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{6-10} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^l is H, optionally substituted C_{1-12} alkyl, optionally substituted C_{3-8} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{6-10} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^m is H, optionally substituted C_{1-12} alkyl, optionally substituted C_{3-8} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{6-10} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^n is H, optionally substituted C_{1-12} alkyl, optionally substituted C_{3-8} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{6-10} aryl, or optionally substituted C_{3-12} cycloalkenyl;

R^o is H, optionally substituted C_{1-12} alkyl, optionally substituted C_{3-8} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{6-10} aryl, or optionally substituted C_{3-12} cycloalkenyl; and

R^p is H, optionally substituted C_{1-12} alkyl, optionally substituted C_{3-8} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{6-10} aryl, or optionally substituted C_{3-12} cycloalkenyl.

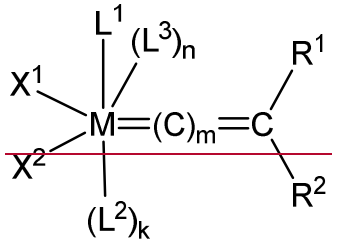
14. The method of claim 12 or claim 13, wherein

the cyclic olefin of formula (I) is ENB-DDA, HNB-DDA, or a mixture thereof;

the cyclic olefin of formula (II) is HENB, NBCbSi, ONB, NB-methanol, NB-dimethanol, NB-epoxide, NB-triethoxysilane, NB-Fluorocarbon (1), NB-fluorocarbon (2), NB-fluorocarbon (3), or a mixture thereof; and

the cyclic olefin of formula (III) is TCPD, DCPD, or a mixture thereof.

15. The method of any of claims 12-14, wherein the at least one curing agent is at least one metal carbene olefin metathesis catalyst having the structure of **Formula (1)**:



Formula (1),

wherein:

M is ruthenium;

L^1, L^2, and L^3 are independently neutral electron donor ligands;

n is 0 or 1;

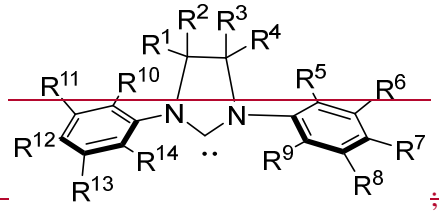
m is 0, 1, or 2;

k is 0 or 1;

X^1 and X^2 are independently anionic ligands; and

R^1 and R^2 are independently hydrogen, unsubstituted hydrocarbyl, substituted hydrocarbyl, unsubstituted heteroatom-containing hydrocarbyl, or substituted heteroatom-containing hydrocarbyl; or R^1 and R^2 are linked together to form one or more cyclic groups.

16. The method of claim 15, wherein:

L^1 is 

;

R^1 is H, optionally substituted C_{1-24} alkyl, halogen, $-C(O)R^{25}$, $-OR^{26}$, CN, $-NR^{27}R^{28}$, NO_2, CF_3, $-S(O)_xR^{29}$, $-P(O)(OH)_2$, $-OP(O)(OH)_2$, $-SR^{31}$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl, optionally substituted C_{3-8} cycloalkenyl, or together with R^2 can form a spiro compound, or together with R^3 or together with R^4 can form a polycyclic ring;

R^2 is H, optionally substituted C_{1-24} alkyl, halogen, $-C(O)R^{25}$, $-OR^{26}$, CN, $-NR^{27}R^{28}$, NO_2, CF_3, $-S(O)_xR^{29}$, $-P(O)(OH)_2$, $-OP(O)(OH)_2$, $-SR^{31}$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl, optionally substituted C_{3-8} cycloalkenyl or together with R^1 can form a spiro compound, or together with R^3 or together with R^4 can form a polycyclic ring;

R^3 is H, optionally substituted C_{1-24} alkyl, halogen, $-C(O)R^{25}$, $-OR^{26}$, CN, $-NR^{27}R^{28}$, NO_2, CF_3, $-S(O)_xR^{29}$, $-P(O)(OH)_2$, $-OP(O)(OH)_2$, $-SR^{31}$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl, optionally substituted C_{3-8} cycloalkenyl, or together with R^2 or together with R^1 can form a polycyclic ring, or together with R^4 can form a spiro compound;

R^4 is H, optionally substituted C_{1-24} alkyl, halogen, $-C(O)R^{25}$, $-OR^{26}$, CN, $-NR^{27}R^{28}$, NO_2, CF_3, $-S(O)_xR^{29}$, $-P(O)(OH)_2$, $-OP(O)(OH)_2$, $-SR^{31}$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl, optionally substituted C_{3-8} cycloalkenyl, or together with R^3 can form a spiro compound, or together with R^2 or together with R^1 can form a polycyclic ring;

R^5 is H, optionally substituted C_{1-24} alkyl, halogen, $-C(O)R^{25}$, $-OR^{26}$, CN, $-NR^{27}R^{28}$, NO_2, CF_3, $-S(O)_xR^{29}$, $-P(O)(OH)_2$, $-OP(O)(OH)_2$, $-SR^{31}$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl, optionally substituted C_{3-8} cycloalkenyl, or together with R^6 can form an optionally substituted polycyclic ring;

R^6 is H, optionally substituted C_{1-24} alkyl, halogen, $-C(O)R^{25}$, $-OR^{26}$, CN, $-NR^{27}R^{28}$, NO_2, CF_3, $-S(O)_xR^{29}$, $-P(O)(OH)_2$, $-OP(O)(OH)_2$, $-SR^{31}$, optionally substituted heterocycle, optionally substituted C_{3-10}

~~cycloalkyl, optionally substituted C_{5-24} aryl, optionally substituted C_{3-8} cycloalkenyl, or together with R^5 or together with R^7 can form an optionally substituted polycyclic ring;~~

~~R^7 is H, optionally substituted C_{1-24} alkyl, halogen, $-C(O)R^{25}$, $-OR^{26}$, $-CN$, $-NR^{27}R^{28}$, $-NO_2$, $-CF_3$, $-S(O)_xR^{29}$, $-P(O)(OH)_2$, $-OP(O)(OH)_2$, $-SR^{31}$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl optionally substituted C_{3-8} cycloalkenyl, or together with R^6 or together with R^8 can form an optionally substituted polycyclic ring;~~

~~R^8 is H, optionally substituted C_{1-24} alkyl, halogen, $-C(O)R^{25}$, $-OR^{26}$, $-CN$, $-NR^{27}R^{28}$, $-NO_2$, $-CF_3$, $-S(O)_xR^{29}$, $-P(O)(OH)_2$, $-OP(O)(OH)_2$, $-SR^{31}$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl, optionally substituted C_{3-8} cycloalkenyl, or together with R^7 or together with R^9 can form an optionally substituted polycyclic ring;~~

~~R^9 is H, optionally substituted C_{1-24} alkyl, halogen, $-C(O)R^{25}$, $-OR^{26}$, $-CN$, $-NR^{27}R^{28}$, $-NO_2$, $-CF_3$, $-S(O)_xR^{29}$, $-P(O)(OH)_2$, $-OP(O)(OH)_2$, $-SR^{31}$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl, optionally substituted C_{3-8} cycloalkenyl, or together with R^8 can form an optionally substituted polycyclic ring;~~

~~R^{10} is H, optionally substituted C_{1-24} alkyl, halogen, $-C(O)R^{25}$, $-OR^{26}$, $-CN$, $-NR^{27}R^{28}$, $-NO_2$, $-CF_3$, $-S(O)_xR^{29}$, $-P(O)(OH)_2$, $-OP(O)(OH)_2$, $-SR^{31}$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl, optionally substituted C_{3-8} cycloalkenyl, or together with R^{11} can form an optionally substituted polycyclic ring;~~

~~R^{11} is H, optionally substituted C_{1-24} alkyl, halogen, $-C(O)R^{25}$, $-OR^{26}$, $-CN$, $-NR^{27}R^{28}$, $-NO_2$, $-CF_3$, $-S(O)_xR^{29}$, $-P(O)(OH)_2$, $-OP(O)(OH)_2$, $-SR^{31}$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl, optionally substituted C_{3-8} cycloalkenyl, or together with R^{10} or together with R^{12} can form an optionally substituted polycyclic ring;~~

~~R^{12} is H, optionally substituted C_{1-24} alkyl, halogen, $-C(O)R^{25}$, $-OR^{26}$, $-CN$, $-NR^{27}R^{28}$, $-NO_2$, $-CF_3$, $-S(O)_xR^{29}$, $-P(O)(OH)_2$, $-OP(O)(OH)_2$, $-SR^{31}$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl, optionally substituted C_{3-8} cycloalkenyl, or together with R^{11} or together with R^{13} can form an optionally substituted polycyclic ring;~~

~~R^{13} is H, optionally substituted C_{1-24} alkyl, halogen, $-C(O)R^{25}$, $-OR^{26}$, $-CN$, $-NR^{27}R^{28}$, $-NO_2$, $-CF_3$, $-S(O)_xR^{29}$, $-P(O)(OH)_2$, $-OP(O)(OH)_2$, $-SR^{31}$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl, optionally substituted C_{3-8} cycloalkenyl, or together with R^{14} or together with R^{12} can form an optionally substituted polycyclic ring;~~

~~R^{14} is H, optionally substituted C_{1-24} alkyl, halogen, $-C(O)R^{25}$, $-OR^{26}$, $-CN$, $-NR^{27}R^{28}$, $-NO_2$, $-CF_3$, $-S(O)_xR^{29}$, $-P(O)(OH)_2$, $-OP(O)(OH)_2$, $-SR^{31}$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl, optionally substituted C_{3-8} cycloalkenyl, or together with R^{13} can form a polycyclic ring;~~

R^{25} is OH, OR^{30}, $NR^{27}R^{28}$, optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-8} cycloalkenyl;

R^{26} is H, optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-8} cycloalkenyl;

R^{27} is H, optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-8} cycloalkenyl;

R^{28} is H, optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-8} cycloalkenyl;

R^{29} is H, optionally substituted C_{1-24} alkyl, OR^{26}, $NR^{27}R^{28}$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-8} cycloalkenyl;

R^{30} is optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-8} cycloalkenyl;

R^{31} is H, optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl or optionally substituted C_{3-8} cycloalkenyl; and

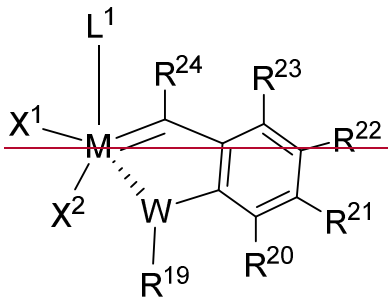
x is 1 or 2.

17. The method of claim 15 or claim 16, wherein: L^2 is $PR^{H1}R^{H2}R^{H3}$ wherein: R^{H1}, R^{H2}, and R^{H3} are each independently optionally substituted C_6-C_{10} aryl, optionally substituted C_1-C_{10} alkyl, or optionally substituted C_3-C_{10} cycloalkyl.

18. The method of any of claims 15-17, wherein: R^1 is hydrogen and R^2 is phenyl; or R^1 is hydrogen and R^2 is 3-methyl-1-propenyl; or R^1 and R^2 are linked together to form 3-phenylindenylid-1-ene.

19. The method of claim 18, wherein: R^{H1} is phenyl, ethyl, or cyclohexyl, R^{H2} is phenyl or cyclohexyl, and R^{H3} is phenyl, ethyl, or cyclohexyl.

20. The method of any of claims 12-19, wherein the at least one curing agent is at least one metal carbene metathesis catalyst having the structure of **Formula (2)**



Formula (2)

wherein:

M is ruthenium;

L^1 is a neutral electron donor ligand;

X^1 and X^2 are independently anionic ligands;

W is O, halogen, NR^{33} or S;

R^{19} is H, optionally substituted C_{1-24} alkyl, $C(R^{34})(R^{35})COOR^{36}$, $C(R^{34})(R^{35})C(O)H$, $C(R^{34})(R^{35})C(O)R^{37}$, $C(R^{34})(R^{35})CR^{38}(OR^{39})(OR^{40})$, $C(R^{34})(R^{35})C(O)NR^{41}R^{42}$, $C(R^{34})(R^{35})C(O)NR^{41}OR^{40}$, $C(O)R^{25}$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl, optionally substituted C_{3-8} cycloalkenyl, or when W is NR^{33}, then R^{19} together with R^{33} can form an optionally substituted heterocyclic ring or when W is halogen then R^{19} is nil;

R^{20} is H, optionally substituted C_{1-24} alkyl, halogen, $C(O)R^{25}$, OR^{26}, CN, $NR^{27}R^{28}$, NO_2, CF_3, $S(O)_xR^{29}$, $P(O)(OH)_2$, $OP(O)(OH)_2$, SR^{31}, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl, optionally substituted C_{3-8} cycloalkenyl or together with R^{21} can form a polycyclic ring;

R^{21} is H, optionally substituted C_{1-24} alkyl, halogen, $C(O)R^{25}$, OR^{26}, CN, $NR^{27}R^{28}$, NO_2, CF_3, $S(O)_xR^{29}$, $P(O)(OH)_2$, $OP(O)(OH)_2$, SR^{31}, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl, optionally substituted C_{3-8} cycloalkenyl or together with R^{20} or together with R^{22} can form a polycyclic ring;

R^{22} is H, optionally substituted C_{1-24} alkyl, halogen, $C(O)R^{25}$, OR^{26}, CN, $NR^{27}R^{28}$, NO_2, CF_3, $S(O)_xR^{29}$, $P(O)(OH)_2$, $OP(O)(OH)_2$, SR^{31}, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl, optionally substituted C_{3-8} cycloalkenyl or together with R^{21} or together with R^{23} can form a polycyclic ring;

R^{23} is H, optionally substituted C_{1-24} alkyl, halogen, $C(O)R^{25}$, OR^{26}, CN, $NR^{27}R^{28}$, NO_2, CF_3, $S(O)_xR^{29}$, $P(O)(OH)_2$, $OP(O)(OH)_2$, SR^{31}, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl, optionally substituted C_{3-8} cycloalkenyl or together with R^{22} can form a polycyclic ring;

R^{24} is H, optionally substituted C_{1-24} alkyl, halogen, $-C(O)R^{25}$, $-OR^{26}$, CN, $-NR^{27}R^{28}$, NO_2, CF_3, $-S(O)_xR^{29}$, $-P(O)(OH)_2$, $-OP(O)(OH)_2$, $-SR^{31}$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl or optionally substituted C_{3-8} cycloalkenyl;

R^{25} is OH, OR^{30}, $NR^{27}R^{28}$, optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl or optionally substituted C_{3-8} cycloalkenyl;

R^{26} is H, optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl or optionally substituted C_{3-8} cycloalkenyl;

R^{27} is H, optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl or optionally substituted C_{3-8} cycloalkenyl;

R^{28} is H, optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl or optionally substituted C_{3-8} cycloalkenyl;

R^{29} is H, optionally substituted C_{1-24} alkyl, OR^{26}, $-NR^{27}R^{28}$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl or optionally substituted C_{3-8} cycloalkenyl;

R^{30} is optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl or optionally substituted C_{3-8} cycloalkenyl;

R^{31} is H, optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl or optionally substituted C_{3-8} cycloalkenyl;

R^{33} is H, optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl or optionally substituted C_{3-8} cycloalkenyl;

R^{34} is H, optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl or optionally substituted C_{3-8} cycloalkenyl;

R^{35} is H, optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl or optionally substituted C_{3-8} cycloalkenyl;

R^{36} is H, optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl or optionally substituted C_{3-8} cycloalkenyl;

R^{37} is optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl or optionally substituted C_{3-8} cycloalkenyl;

R^{38} is H, optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl or optionally substituted C_{3-8} cycloalkenyl;

R^{39} is H, optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl or optionally substituted C_{3-8} cycloalkenyl;

R^{40} is H, optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl or optionally substituted C_{3-8} cycloalkenyl;

R^{41} is H, optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl or optionally substituted C_{3-8} cycloalkenyl;

R^{42} is H, optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl or optionally substituted C_{3-8} cycloalkenyl; and

x is 1 or 2.

21. The method of any of claims 12-20, wherein the coating composition comprises at least one cyclic olefin represented selected from the group consisting of **Formulae (I)** and **(II)**.

22. The method of any of claims 12-20, wherein the coating composition comprises at least one cyclic olefin selected from the group consisting of **Formulae (I)** and **(III)**.

23. The method of any of claims 12-20, wherein the coating composition comprises at least one cyclic olefin selected from the group consisting of **Formulae (II)** and **(III)**.

24. The method of any of claims 12-23, wherein the coating composition additive is selected from the group consisting of a gel modifier, a hardness modulator, an impact modifier, an antioxidant, an antiozonant, a filler, a binder, a thixotrope, a rheology modifier, a dispersant, a wetting agent, a plasticizer, a pigment, a flame retardant, a dye, fibers, a reinforcement material, a coupling agent, a UV absorber, a UV light stabilizer, a film former, a lubricant, an adhesion promoter and mixtures thereof.

25. The method of any of claims 12-23, wherein the coating composition additive is selected from the group consisting of a filler, rheology modifier, a coupling agent, a UV absorber, a UV light stabilizer, an adhesion promoter and mixtures thereof.

26. The method of any of claims 12-23, wherein the coating composition contains a filler and the filler is an inorganic filler present in an amount of 0.01 to 95 percent by weight.

27. The method of any of claims 12-26, further comprising the step of adhering a second substrate by placing a second substrate on the coated substrate to adhere the two substrates together.

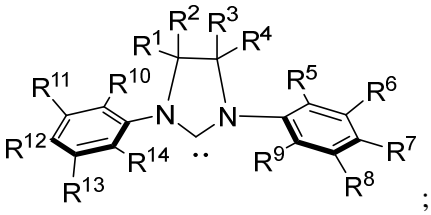
28. An article of manufacture produced by the method of any of claims 12-27.

~~29. An article of manufacture comprising a substrate coated with a cured coating composition wherein the coating composition is a coating composition of any of claims 1-11.~~

~~30. An article of manufacture of claim 29, wherein the substrate is a metal surface.~~

~~31. An article of manufacture of claim 29, wherein the substrate is a nonmetal surface.~~

~~32~~12. The coating composition of claim 4, wherein:

L^1 is ;

R^1 is H, optionally substituted C_{1-24} alkyl, halogen, - $C(O)R^{25}$, $-OR^{26}$, CN, $-NR^{27}R^{28}$, NO_2, $-CF_3$, $-S(O)_xR^{29}$, $-P(O)(OH)_2$, $-OP(O)(OH)_2$, $-SR^{31}$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl, optionally substituted C_{3-8} cycloalkenyl, or together with R^2 can form a spiro compound, or together with R^3 or together with R^4 can form a polycyclic ring;

R^2 is H, optionally substituted C_{1-24} alkyl, halogen, $-C(O)R^{25}$, $-OR^{26}$, CN, $-NR^{27}R^{28}$, $-NO_2$, $-CF_3$, $-S(O)_xR^{29}$, $-P(O)(OH)_2$, $-OP(O)(OH)_2$, $-SR^{31}$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl, optionally substituted C_{3-8} cycloalkenyl or together with R^1 can form a spiro compound, or together with R^3 or together with R^4 can form a polycyclic ring;

R^3 is H, optionally substituted C_{1-24} alkyl, halogen, $-C(O)R^{25}$, $-OR^{26}$, CN, $-NR^{27}R^{28}$, NO_2, $-CF_3$, $-S(O)_xR^{29}$, $-P(O)(OH)_2$, $-OP(O)(OH)_2$, $-SR^{31}$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl, optionally substituted C_{3-8} cycloalkenyl, or together with R^2 or together with R^1 can form a polycyclic ring, or together with R^4 can form a spiro compound;

R^4 is H, optionally substituted C_{1-24} alkyl, halogen, $-C(O)R^{25}$, $-OR^{26}$, -CN, $-NR^{27}R^{28}$, $-NO_2$, $-CF_3$, $-S(O)_xR^{29}$, $-P(O)(OH)_2$, $-OP(O)(OH)_2$, $-SR^{31}$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl, optionally substituted C_{3-8} cycloalkenyl, or together with R^3 can form a spiro compound, or together with R^2 or together with R^1 can form a polycyclic ring;

R^5 is H, optionally substituted C_{1-24} alkyl, halogen, $-C(O)R^{25}$, $-OR^{26}$, CN, $-NR^{27}R^{28}$, $-NO_2$, $-CF_3$, $-S(O)_xR^{29}$, $-P(O)(OH)_2$, $-OP(O)(OH)_2$, $-SR^{31}$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl, optionally substituted C_{3-8} cycloalkenyl, or together with R^6 can form an optionally substituted polycyclic ring;

R^6 is H, optionally substituted C_{1-24} alkyl, halogen, $-C(O)R^{25}$, $-OR^{26}$, -CN, $-NR^{27}R^{28}$, $-NO_2$, $-CF_3$, $-S(O)_xR^{29}$, $-P(O)(OH)_2$, $-OP(O)(OH)_2$, $-SR^{31}$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl, optionally substituted C_{3-8} cycloalkenyl, or together with R^5 or together with R^7 can form an optionally substituted polycyclic ring;

R^7 is H, optionally substituted C_{1-24} alkyl, halogen, $-C(O)R^{25}$, $-OR^{26}$, -CN, $-NR^{27}R^{28}$, $-NO_2$, $-CF_3$, $-S(O)_xR^{29}$, $-P(O)(OH)_2$, $-OP(O)(OH)_2$, $-SR^{31}$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl optionally substituted C_{3-8} cycloalkenyl, or together with R^6 or together with R^8 can form an optionally substituted polycyclic ring;

R^8 is H, optionally substituted C_{1-24} alkyl, halogen, $-C(O)R^{25}$, $-OR^{26}$, -CN, $-NR^{27}R^{28}$, $-NO_2$, $-CF_3$, $-S(O)_xR^{29}$, $-P(O)(OH)_2$, $-OP(O)(OH)_2$, $-SR^{31}$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl, optionally substituted C_{3-8} cycloalkenyl, or together with R^7 or together with R^9 can form an optionally substituted polycyclic ring;

R^9 is H, optionally substituted C_{1-24} alkyl, halogen, $-C(O)R^{25}$, $-OR^{26}$, CN, $-NR^{27}R^{28}$, NO_2, $-CF_3$, $-S(O)_xR^{29}$, $-P(O)(OH)_2$, $-OP(O)(OH)_2$, $-SR^{31}$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl, optionally substituted C_{3-8} cycloalkenyl, or together with R^8 can form an optionally substituted polycyclic ring;

R^{10} is H, optionally substituted C_{1-24} alkyl, halogen, $-C(O)R^{25}$, $-OR^{26}$, -CN, $-NR^{27}R^{28}$, $-NO_2$, $-CF_3$, $-S(O)_xR^{29}$, $-P(O)(OH)_2$, $-OP(O)(OH)_2$, $-SR^{31}$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl, optionally substituted C_{3-8} cycloalkenyl, or together with R^{11} can form an optionally substituted polycyclic ring;

R^{11} is H, optionally substituted C_{1-24} alkyl, halogen, $-C(O)R^{25}$, $-OR^{26}$, -CN, $-NR^{27}R^{28}$, $-NO_2$, $-CF_3$, $-S(O)_xR^{29}$, $-P(O)(OH)_2$, $-OP(O)(OH)_2$, $-SR^{31}$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl, optionally substituted C_{3-8} cycloalkenyl, or together with R^{10} or together with R^{12} can form an optionally substituted polycyclic ring;

R^{12} is H, optionally substituted C_{1-24} alkyl, halogen, $-C(O)R^{25}$, $-OR^{26}$, -CN, $-NR^{27}R^{28}$, $-NO_2$, $-CF_3$, $-S(O)_xR^{29}$, $-P(O)(OH)_2$, $-OP(O)(OH)_2$, $-SR^{31}$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl, optionally substituted C_{3-8} cycloalkenyl, or together with R^{11} or together with R^{13} can form an optionally substituted polycyclic ring;

R^{13} is H, optionally substituted C_{1-24} alkyl, halogen, $-C(O)R^{25}$, $-OR^{26}$, -CN, $-NR^{27}R^{28}$, $-NO_2$, $-CF_3$, $-S(O)_xR^{29}$, $-P(O)(OH)_2$, $-OP(O)(OH)_2$, $-SR^{31}$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl, optionally substituted C_{3-8} cycloalkenyl, or together with R^{14} or together with R^{12} can form an optionally substituted polycyclic ring;

R^{14} is H, optionally substituted C_{1-24} alkyl, halogen, $-C(O)R^{25}$, $-OR^{26}$, -CN, $-NR^{27}R^{28}$, $-NO_2$, $-CF_3$, $-S(O)_xR^{29}$, $-P(O)(OH)_2$, $-OP(O)(OH)_2$, $-SR^{31}$, optionally substituted heterocycle, optionally substituted C_{3-}

$_{10}$ cycloalkyl, optionally substituted C_{5-24} aryl, optionally substituted C_{3-8} cycloalkenyl, or together with R^{13} can form a polycyclic ring;

R^{25} is -OH, -OR^{30}, -$NR^{27}R^{28}$, optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-8} cycloalkenyl;

R^{26} is H, optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-8} cycloalkenyl;

R^{27} is H, optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-8} cycloalkenyl;

R^{28} is H, optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-8} cycloalkenyl;

R^{29} is H, optionally substituted C_{1-24} alkyl, -OR^{26}, -$NR^{27}R^{28}$, optionally substituted heterocycle, optionally substituted C_{3-10} cycloalkyl, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-8} cycloalkenyl;

R^{30} is optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl, or optionally substituted C_{3-8} cycloalkenyl;

R^{31} is H, optionally substituted C_{1-24} alkyl, optionally substituted C_{3-10} cycloalkyl, optionally substituted heterocycle, optionally substituted C_{5-24} aryl or optionally substituted C_{3-8} cycloalkenyl; and

x is 1 or 2.

~~33~~13. The coating composition of claim ~~32~~12, wherein: L^2 is $PR^{H1}R^{H2}R^{H3}$ wherein: R^{H1}, R^{H2}, and R^{H3} are each independently optionally substituted C_6-C_{10} aryl, optionally substituted C_1-C_{10} alkyl, or optionally substituted C_3-C_{10} cycloalkyl.

~~34~~14. The coating composition of claim ~~32~~ 12 or claim ~~33~~13, wherein: R^1 is hydrogen and R^2 is phenyl; or R^1 is hydrogen and R^2 is 3-methyl-1-propenyl; or R^1 and R^2 are linked together to form 3-phenylindenylid-1-ene.

~~35~~15. The coating composition of claim ~~34~~14, wherein: R^{H1} is phenyl, ethyl, or cyclohexyl, R^{H2} is phenyl or cyclohexyl, and R^{H3} is phenyl, ethyl, or cyclohexyl.

~~36~~16. The coating composition of any one of claims 1-11 and claims ~~32~~12-~~35~~15, wherein the composition further comprises an inorganic filler selected from mica, glass fibers, wollastonite, calcium carbonate, silica, and mixtures thereof.

~~37. The method of claim 26 or claim 27, wherein the inorganic filler is selected from aluminum powder or alloys thereof, aluminum flakes or alloys thereof, micaceous iron oxide, mica, glass fibers, wollastonite, calcium carbonate, silica, and mixtures thereof.~~

~~38. The method of claim 37, wherein the inorganic filler is selected from aluminum powder or alloys thereof, aluminum flakes or alloys thereof, micaceous iron oxide, and mixtures thereof.~~

~~39. The method of claim 38, wherein the inorganic filler is selected from aluminum powder or alloys thereof, aluminum flakes or alloys thereof, and mixtures thereof.~~

17. The coating composition of claim 1, wherein:
the cyclic olefin of Formula (I) is present in an amount ranging from 25-100%, based on the total amount of cyclic olefins present in the coating composition.

18. The coating composition of claim 1, wherein:
the cyclic olefin of Formula (I) is present in an amount ranging from 50-100%, based on the total amount of cyclic olefins present in the coating composition.

19. The coating composition of claim 1, wherein:
the cyclic olefin of Formula (I) is present in an amount ranging from 70-85%, based on the total amount of cyclic olefins present in the coating composition.

20. The coating composition of claim 1, wherein:
the cyclic olefin of Formula (II) is present in an amount ranging from 20-80%, based on the total amount of cyclic olefins present in the coating composition.

21. The coating composition of claim 1, wherein:
the cyclic olefin of Formula (II) is present in an amount ranging from 15-50%, based on the total amount of cyclic olefins present in the coating composition.

22. The coating composition of claim 1, wherein:
the cyclic olefin of Formula (III) is present in an amount ranging from 20-75%, based on the total amount of cyclic olefins present in the coating composition.

23. The coating composition of claim 1, wherein:
the cyclic olefin of Formula (III) is present in an amount ranging from 10-80%, based on the total amount of cyclic olefins present in the coating composition.

24. The coating composition of claim 1, wherein:

the cyclic olefin of Formula (IV) is present in an amount ranging from 1-5%, based on the total amount of cyclic olefins present in the coating composition.

25. The coating composition of claim 1, wherein:
the cyclic olefin of Formula (I) is present in an amount ranging from 10-70%, based on the total amount of cyclic olefins present in the coating composition;
the cyclic olefin of Formula (II) is present in an amount ranging from 10-50%, based on the total amount of cyclic olefins present in the coating composition;
the cyclic olefin of Formula (III) is present in an amount ranging from 20-60%, based on the total amount of cyclic olefins present in the coating composition;
the wt.% of the olefins of Formulae (I), (II), and (III) add to 100 wt.% of the olefinic component.

26. The coating composition of claim 1, wherein the inorganic filler is present in an amount ranging from 10 to 60 wt.%.

27. The coating composition of claim 1, wherein the inorganic filler is present in an amount ranging from 15 to 40 wt.%.

28. The coating composition of claim 1, wherein the inorganic filler is present in an amount ranging from 20 to 50 wt.%.

29. The coating composition of claim 1, wherein the inorganic filler is present in an amount ranging from 17 to 60 wt.%.

30. A method for coating a substrate material, comprising:
optionally applying an adhesion promoter onto the substrate surface;
applying onto the substrate surface a coating composition of any one of claims 1-11, 12-16, and 17-29; and
curing at room temperature the coating applied on the substrate surface.

31. The method of claim 30, further comprising the step of adhering a second substrate by placing a second substrate on the coated substrate to adhere the two substrates together.

32. The method of claim 30, wherein the coating applied on the substrate surface is cured at room temperature.

33. An article of manufacture produced by the method of any of claims 30-32.

34. An article of manufacture comprising a substrate coated with a cured coating composition wherein the coating composition is a coating composition of any of claims 1-11, 12-16, and 17-29.

35. An article of manufacture of claim 34, wherein the substrate is a metal surface.

36. An article of manufacture of claim 34, wherein the substrate is a nonmetal surface.