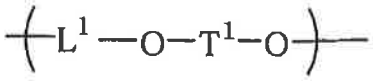
CLAIMS

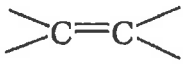
1. An adhesive composition comprising:

a polymer that contains a unit structure of Formula (1):


Formula (1)

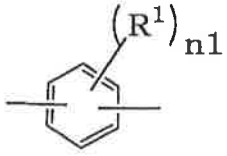
(where L^1 is an arylene group or a combination of an arylene group and a sulfonyl group or a carbonyl group, and T^1 is a fluoroalkylene group, a cyclic alkylene group, ~~an arylene group having a substituent,~~ or a combination of an arylene group optionally having a substituent and a fluoroalkylene group or a cyclic alkylene group), and contains, at a terminal or in a side chain or the main chain, at least one group containing a structure of Formula (2-A), a structure of Formula (2-B), or both structures:

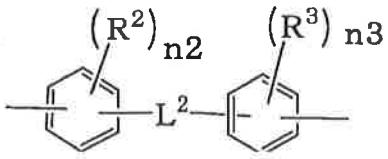

Formula (2-A)


Formula (2-B)

wherein the arylene groups in L^1 and T^1 are independently a phenylene group, a naphthylene group, or an anthrylene group, and

wherein the polymer contains the unit structure of Formula (1) with L^1 being a divalent group of Formula (3) or the unit structure of Formula (1) with L^1 being a divalent group of Formula (4):


Formula (3)


Formula (4)

where R^1, R^2, and R^3 are independently a C_{1-10} alkyl group, a C_{1-4} fluoroalkyl group, a hydroxy group, an allyl group, an allyloxy group, an amino group, a cyano group, a nitro group, an acyl group, an acyloxy group, a carboxy group, a group containing a tertiary-carbon structure, a cyclic alkyl group, or a combination of these, L^2 is a sulfonyl

group, a carbonyl group, an ester group, an amido group, a sulfinyl group, or a sulfonamido group, and each of n1, n2, and n3 is an integer of 0 to 4.

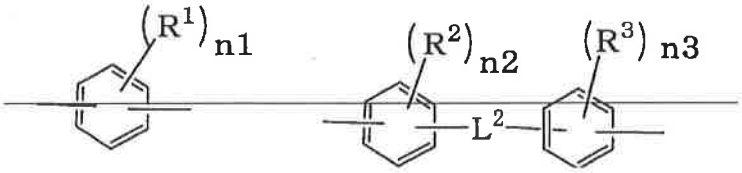
~~2. The adhesive composition according to claim 1, wherein the arylene groups in L^1 and T^1 are independently a phenylene group, a naphthylene group, or an anthrylene group.~~

2.~~3.~~ The adhesive composition according to claim 1~~ or 2~~, wherein the polymer is a homopolymer containing one kind of unit structure.

3.~~4.~~ The adhesive composition according to claim 1~~ or 2~~, wherein the polymer is a copolymer containing at least two kinds of unit structures.

~~5. The adhesive composition according to any one of claims 1 to 4, comprising:~~

~~a polymer that contains the unit structure of Formula (1) with L^1 being a divalent group of Formula (3) or a polymer that contains the unit structure of Formula (1) with L^1 being a divalent group of Formula (4):~~



Formula (3) Formula (4)

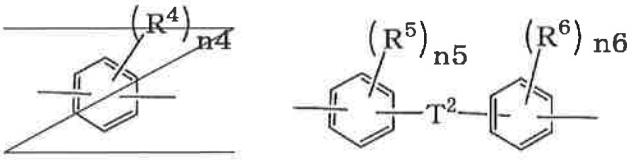
~~(where R^1, R^2, and R^3 are independently a C_{1-10} alkyl group, a C_{1-4} fluoroalkyl group, a hydroxy group, an allyl group, an allyloxy group, an amino group, a cyano group, a nitro group, an acyl group, an acyloxy group, a carboxy group, a group containing a tertiary carbon structure, a cyclic alkyl group, or a combination of these, L^2 is a sulfonyl group, a carbonyl group, an ester group, an amido group, a sulfinyl group, or a sulfonamido group, and each of n1, n2, and n3 is an integer of 0 to 4).~~

4.~~6.~~ The adhesive composition according to any one of claims 1~~,~~ ~~2,~~ and ~~4~~ 3, comprising:

a polymer that contains a combination of the unit structure of Formula (1) with L^1 being the divalent group of Formula (3) in claim 1~~5~~ and the unit structure of Formula (1) with L^1 being the divalent group of Formula (4) in claim 1~~5~~.

5.~~7.~~ The adhesive composition according to any one of claims 1 to 4~~,~~ ~~6,~~ comprising:

~~a polymer that contains the unit structure of Formula (1) with T^1 being a divalent group of Formula (5) or~~ a polymer that contains the unit structure of Formula (1) with T^1 being a divalent group of Formula (6):



~~Formula (5)~~ Formula (6)

~~(where R^4,~~ R^5, and R^6 are independently a C_{1-10} alkyl group, a C_{1-4} fluoroalkyl group, a hydroxy group, an allyl group, an allyloxy group, an amino group, a cyano group, a

nitro group, an acyl group, an acyloxy group, a carboxy group, a group containing a tertiary-carbon structure, a cyclic alkyl group, or a combination of these, each of ~~n4,~~ n5~~,~~ and n6 is an integer of 0 to 4, and T^2 is a fluoroalkylene group, a cyclic alkylene group, or a combination of these~~)~~.

~~8. The adhesive composition according to any one of claims 1, 2, and 4 to 6, comprising:~~

~~a polymer that contains a combination of the unit structure of Formula (1) with T^1 being the divalent group of Formula (5) in claim 7 and the unit structure of Formula (1) with T^1 being the divalent group of Formula (6) in claim 7.~~

6.~~9.~~ The adhesive composition according to claim 1~~5~~ or 4~~,6,~~ wherein, in Formula (3), R^1 has at least a cyano group and n1 is an integer of 1 to 4.

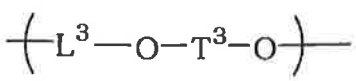
7.~~10.~~ The adhesive composition according to claim 5~~,7 or 8,~~ wherein, in Formula (3), R^1 has at least a cyano group and n1 is an integer of 1 to 4.

8.~~11.~~ The adhesive composition according to claim 1~~5~~ or 4~~,6,~~ wherein, in Formula (4), L^2 is a sulfonyl group or a carbonyl group.

9.~~12.~~ The adhesive composition according to claim 5~~,7 or 8,~~ wherein, in Formula (4), L^2 is a sulfonyl group or a carbonyl group.

10.~~13.~~ The adhesive composition according to any one of claims 1~~, 2,~~ and 3 ~~4~~to 9~~12~~, further comprising:

a polymer that contains a unit structure of Formula (7):

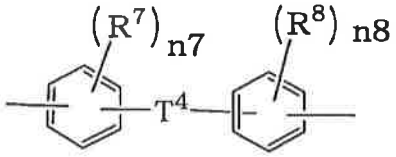


Formula (7)

~~(~~where L^3 is the divalent group of Formula (3) or Formula (4), and T^3 is an alkylene group, a sulfonyl group, a carbonyl group, a C_{6-30} arylene group, or a combination of these~~)~~.

11.~~14.~~ The adhesive composition according to claim 10~~13~~, wherein the arylene group is a phenylene group, a naphthylene group, or an anthrylene group.

12.~~15.~~ The adhesive composition according to claim 10~~13~~ or 11~~14~~, wherein T^3 is a divalent group of Formula (8):



Formula (8)

~~(~~where each of R^7 and R^8 is a C_{1-10} alkyl group, a C_{1-4} fluoroalkyl group, a hydroxy group, an allyl group, an allyloxy group, an amino group, a cyano group, a nitro group, an acyl group, an acyloxy group, a carboxy group, a group containing a tertiary-carbon structure, a cyclic alkyl group, or a combination of these, each of n7 and n8 is an integer of 0 to 4, and T^4 is an alkylene group, a sulfonyl group, a carbonyl group, a C_{6-30} arylene group, or a combination of these~~)~~.

13.~~16.~~ The adhesive composition according to any one of claims 1~~5~~ to 12~~15~~, wherein the group containing a tertiary-carbon structure is a tertiary butyl group.

~~17. The adhesive composition according to any one of claims 1 to 16, wherein weight average molecular weight of the polymer is 500 to 5,000,000.~~

14.~~18.~~ The adhesive composition according to any one of claims 1 to 13~~17~~, further comprising:

a solvent, wherein

the adhesive composition has a viscosity of 0.001 to 5,000 Pa·s.

15.~~19.~~ A laminate comprising:

an adhesive layer formed from the adhesive composition according to any one of claims 1 to 14~~18~~, the adhesive layer being interposed between a first material being bonded and a second material being bonded that is of the same kind as or of a different kind from the first material, wherein

the adhesive layer has a thickness of 0.1 μm to 200 μm.

16.~~20.~~ The laminate according to claim 15~~19~~, wherein the materials being bonded are each a silicon substrate, a glass substrate, a resin substrate, or a ceramic substrate.