

TITLE: **SILOXY SUBSTITUTED COCATALYST ACTIVATORS FOR OLEFIN POLYMERIZATION**

TECHNICAL FIELD

This invention relates to polymerization cocatalyst compounds containing weakly coordinating Group 13 element anions and to the preparation of olefin polymers using ionic catalyst systems based on organometallic transition metal cationic compounds stabilized by these anions.

BACKGROUND ART

The term "noncoordinating anion" is now accepted terminology in olefin and vinyl monomer polymerization. See, for example, EP 0 277 003, EP 0 277 004, U.S. patent 5,198,401, U.S. patent 5,278,119, and Baird, Michael C., et al, J. Am. Chem. Soc. 1994, 116, 6435-6436. The noncoordinating anions are described to function as electronic stabilizing cocatalysts, or counterions, for essentially cationic metallocene complexes that are polymerization active. The term noncoordinating anion encompasses truly noncoordinating anions and coordinating anions that coordinate weakly enough at the insertion site to be replaced by olefinically or acetylenically unsaturated monomers. These noncoordinating anions can be effectively introduced into a polymerization medium, or mixed with an organometallic catalyst before they are introduced into the polymerization medium, as Bronsted acid salts containing charge-balancing countercations. See also, the review articles by S. H. Strauss, "The Search for Larger and More Weakly Coordinating Anions", *Chem. Rev.*, 93, 927-942 (1993).

Olefin solution polymerization is generally conducted in aliphatic solvents that serve to maintain reaction temperature and solvate the polymer products. But aryl-group-containing activators, such as those having phenyl derivatives and other fused or pendant aryl-group substituents, are at best sparingly soluble in aliphatic solvents and typically are introduced in aryl solvents such as toluene. This introduces aryl-containing contaminants into the solution polymerization (and the product) that should be removed. Alternatively, relatively insoluble catalyst components can be introduced via slurry methods, but such methods required specialized handling and pumping procedures that complicate and harms industrial scale plant design and operation. Low solubility also harms low temperature operation, such as typical adia-

batic processes, carried out in areas subject to low ambient temperatures. Moreover, separating or counteracting aromatic-solvent build up in the recycle system is another problem. At the same time, maintenance of high polyolefin molecular weights while operating at desired high polymerization (economically preferred) temperatures and high production rates is desired. Thus, olefin polymerization cocatalyst activators that are more aliphatic-solvent soluble particularly at elevated temperatures are desired.

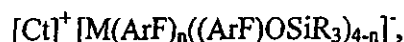
U.S. patent 5,502,017, to Marks et al., addresses ionic metallocene olefin polymerization catalysts containing a weakly coordinating anion comprising boron substituted with halogenated aryl substituents preferably containing silylalkyl substitution, such as a t-butyldimethyl-silyl substitution. Marks et al. disclose the weakly coordinating anion as the cocatalyst. The silylalkyl substitution is said to increase the solubility and thermal stability of the resulting metallocene salts. Examples 3-5 describes synthesis of and polymerization with the cocatalyst compound triphenylcarbenium tetrakis (4-dimethyl-t-butylsilyl-2, 3, 5, 6-tetrafluorophenyl) borate.

In view of the above, there is a continuing need for activating cocatalyst compounds both to improve the industrial economics of solution polymerization and to provide alternative activators for olefin polymerization catalyst systems.

BRIEF SUMMARY

The invention provides anion-containing cocatalyst precursors that can be combined with organometallic catalyst precursors to form active olefin polymerization catalysts. Olefin polymerization can be conducted by contacting an activated catalyst with a suitable monomer or mixture of monomers, i.e. those having accessible olefinic, acetylenic, or other unsaturation. The catalyst can be activated, *in situ*, essentially concurrent with, or before, contacting the monomer. Invention catalyst systems can prepare polymers and copolymers from olefinically and acetylenically unsaturated monomers. Cocatalyst precursor anions [A]⁻ contain a central Group-13 core connected to fluoroaryl ligands. At least one of the fluoroaryl ligands is substituted in its para-position (para-substituted) with a siloxy group represented by the symbols -OSiR₃. R represents one or more alkyl or alkylsilyl groups. When the anions are to be used with anilinium or ammonium cations, the R-groups are secondary, or even tertiary, alkyl or alkylsilyl groups as long as the R-group's bulk does not cause steric problems.

Preferred invention cocatalyst activators can be represented by the following formula:

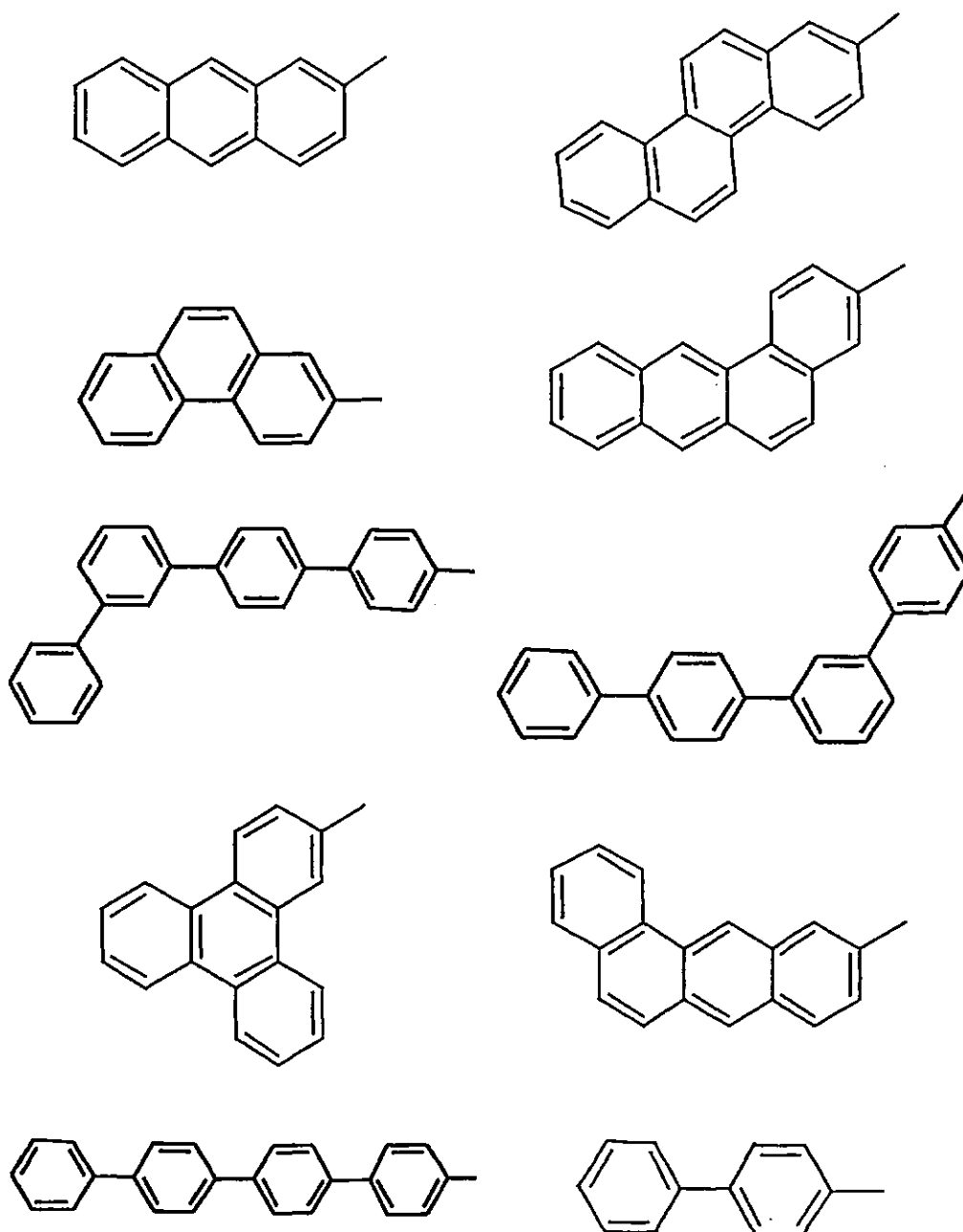


where $[Ct]^+$ is a cation capable of abstracting an alkyl group, or breaking a carbon-metal connection from organometallic compounds containing that type of connection. Such a cation is known as an activating cation. M is a Group-13 element, preferably boron or aluminum, ArF is a fluorinated aryl group, and each R is independently selected from C₁-C₃₀ hydrocarbyl or hydrocarbylsilyl substituents, preferably attached to the Si atom through a secondary or tertiary carbon atom.

DETAILED DESCRIPTION

Exemplary ArF ligands and substituents specifically include fluorinated aryl groups, preferably perfluorinated aryl groups, and include substituted ArF groups having substituents other than the fluorine substitution, such as fluorinated hydrocarbyl groups. Preferred fluorinated aryl groups include phenyl, biphenyl, naphthyl, indenyl, fluorenyl, anthracenyl, pyrenyl, and their derivatives. The disclosures of U.S. patents 5,198,401, 5,296,433, 5,278,119, 5,447,895, 5,688,634, 5,895,771, WO 93/02099, WO 97/29845, WO 99/43717, and WO 99/42467 are particularly instructive as to suitable ArF chemical groups. In some embodiments, one-third of the hydrogen atoms on aromatic-ligand carbon atoms are replaced by fluorine atoms, and, in other embodiments, the aryl ligands are perfluorinated. Perfluorinated means that each aryl hydrogen atom, unless substituted with an invention siloxy substituent, is substituted with fluorine or fluorocarbyl substituents, e.g., trifluoromethyl. The term "perfluorinated" also encompasses those aryl ligands in which all but one hydrogen atom in the para position is replaced with fluorine and the para-position hydrogen is replaced with an invention siloxy group.

The chart below shows additional suitable size ligands.



Essentially any of the defined R groups will be effective for olefin polymerization such as by solution, bulk, slurry and gas-phase processes. Exemplary R groups include methyl, ethyl, n-propyl, iso-propyl, n-butyl, tert-butyl, cyclohexyl, benzyl, methyltrimethylsilyl, methyltriethylsilyl, etc. The R groups may be the same or different; in other words, mixed alkyl groups may be located on the siloxy silicon. In

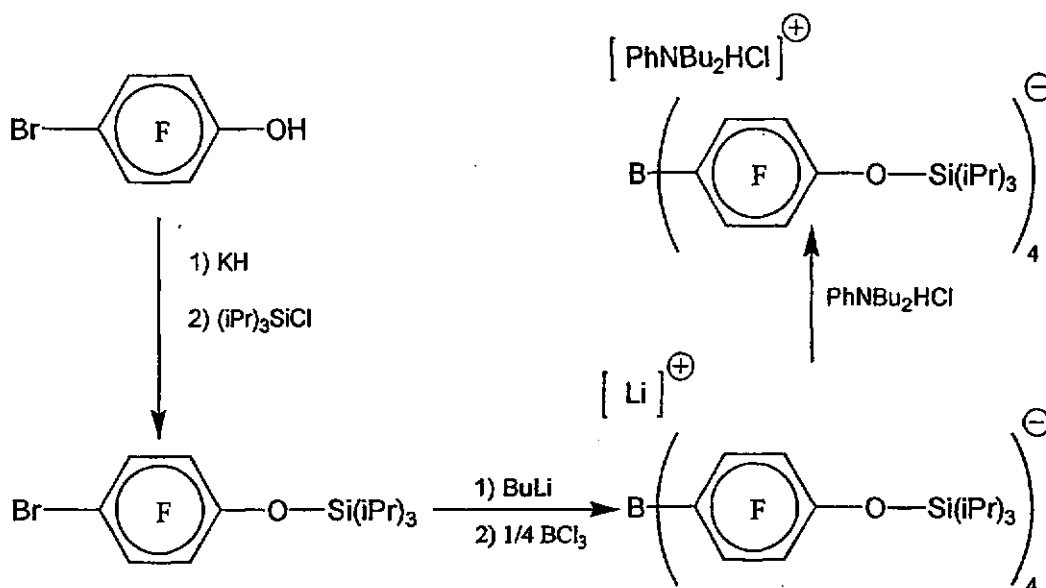
some embodiments, each R is a C₁₋₂₀ hydrocarbyl or hydrocarbylsilyl substituent, attached to the Si of the -O-Si- group using a secondary or tertiary carbon. Tertiary-carbon-containing substituents can be advantageously employed where the other R groups are less bulky, that is lower alkyl (C₁-C₄) primary or secondary alkyl substituents, to minimize steric hindrance. Counter to this, the R groups must be bulky enough to inhibit reaction between the siloxy group and the activated catalyst.

Selecting R such that the cocatalyst anion is effectively soluble in aliphatic solvent is particular advantageous. "Effective solubility", and equivalent phraseology, means soluble enough to provide aliphatic-dissolved cocatalyst that is concentrated enough to activate industrially useful amounts of organometallic catalyst compounds without using slurries or aromatic solvents. For example, the selection of C₂ or higher carbon-number alkyl or silylalkyl groups on the silicon atom, provides effective solubility.

Effective cations (Ct⁺) can be any of those capable of abstracting monoanionic hydride, alkyl, or other hydrocarbyl or hydrocarbylsilyl ligands from organometallic polymerization catalysts, or cutting covalent metal-carbon η^1 or η^2 bonds in such catalysts. These are referred to as activating cations. Preferably, the cation essentially doesn't interfere with the ionic catalyst complexes formed from the catalyst precursor compounds. Suitable cations include nitrogen-containing cations such as the anilinium and ammonium salts of U.S. patent 5,198,401, and WO 97/35893, the trityl carbenium cations of US patent 5,387,568, metal cations, e.g., Ag⁺, the silylium cations of WO 96/08519, and hydrated Group-1 or -2 metal cations of US patent 5,767,208. Additionally, suitable cations include nitrogen- and carbon-based cations described in WO 97/35893, and in copending U.S. applications serial nos. 09/694,595, (filing date 22 October 1999), and 09/734,296 (filing date 9 December 1999). Thus hydrocarbyl, hydrocarbyl-amine, hydrocarbyl-silyl, C₁-C₂₀, and Group-1,-2,-11 and -12-based cations are suitable. An example of a hydrocarbyl-amine is N-pentafluorophenyl pyrrolidinium.

Invention cocatalysts may be prepared by synthetic methods as known in the art. In a typical procedure, bromo-tetrafluorophenol is converted to its siloxy-

substituted counterpart by reacting it with a strong base such as potassium hydride. After that reaction, the resulting phenoxide is reacted with a trialkylchlorosilane. The reaction product is then reacted with BuLi and an appropriate amount of a boron or aluminum trihalide. The resulting lithium salt can then be converted to an activating cocatalyst salt by cation exchange with a halide salt, for example anilinium or ammonium salts. This reaction sequence is illustrated below.



Organometallic precursor compounds suitable as olefin polymerization catalysts by coordination or insertion polymerization will include the known organometallic, transition metal compounds useful in traditional Ziegler-Natta coordination polymerization, particularly the metallocene compounds known to be useful in coordination polymerization, when such compounds are capable of catalytic activation by the cocatalyst activators described for the invention. These will typically include Group-3-10 transition metal compounds containing at least one metal ligand abstractable by the cocatalyst activators, e.g., hydride, hydrocarbyl, and hydrocarbylsilyl, and lower alkyl-substituted (C_1 - C_{10}) derivatives of those. Examples include hydride, methyl, benzyl, dimethyl-butadiene, etc. Abstractable ligands and transition metal compounds comprising them include those metallocenes described in the background art, see for example US patents 5,198,401 and WO 92/00333. Syntheses of these compounds is well known from the published literature. Additionally, where the

metal ligands include non-abstractable halogen, amido, or alkoxy ligands (for example, biscyclopentadienyl zirconium dichloride), which do not allow for ready abstraction with the invention cocatalysts, the ligands can be converted into abstractable ones via known alkylation reactions with organometallic compounds such as lithium or aluminum hydrides or alkyls, alkylalumoxanes, Grignard reagents, etc. This treatment also modifies the ligand to facilitate olefin insertion during polymerization. See also EP 0 500 944 and EP 0 570 982 for the reaction of organoaluminum compounds with dihalo-substituted metallocene compounds before adding activators.

The patent literature describes yet other metallocene compounds suitable for use in this invention and with invention activators, e.g., EP-A-0 129 368, US patents 4,871,705, 4,937,299, 5,324,800, 5,470,993, 5,491,246, 5,512,693, EP-A-0 418 044, EP-A-0 591 756, WO-A-92/00333, WO-A-94/01471 and WO 97/22635. Suitable metallocene compounds are those that are activable into a cationic catalyst by a ligand abstraction. In addition to containing abstractable ligands, the metallocene can alternatively contain ligands that are made abstractable by alkylating the metallocene. For this invention, metallocenes or metallocene compounds mean mono- or biscyclopentadienyl-substituted Group-3, -4, -5, or -6 transition metal compounds in which the ancillary ligands may be substituted with one or more groups and may be bridged to each other, or through a heteroatom to the transition metal. (Ancillary ligands are Cp ligands, bridges between Cp ligands, or other coordinating ligands not directly involved in the polymerization reaction. Ancillary ligands, in general, control the sterics and environment around the metal center. It is believed that ancillary ligands are not abstracted to activate the metal center. Moreover, it is believed that ancillary ligands are not subject to monoolefin insertion into the ancillary ligand/metal center bond during the polymerization reaction). These ligands and bridging elements' size and constituency should be selected in the literature-described manner to enhance the desired polymerization activity and characteristics. In some embodiments, the cyclopentadienyl rings (including substituted cyclopentadienyl-based, fused ring systems, such as indenyl, fluorenyl, azulenyl, or their substituted analogs), when bridged to each other, will be lower-alkyl-substituted (C_1 - C_6) in the 2 position (with or without a similar 4-position substituent in the fused ring systems) and can additionally comprise alkyl, cycloalkyl, aryl, alkylaryl, or arylalkyl substituents, the latter as linear,

branched, or cyclic structures including multi-ring structures, for example, those of U.S. patents 5,278,264 and 5,304,614. Such substituents should each have essentially hydrocarbonyl characteristics and will typically contain up to 30 carbon atoms, but may be heteroatom-containing with 1-5 non-hydrogen/carbon atoms, e.g., N, S, O, P, Ge, B and Si.

Further, metallocene compounds suitable for polyethylene or ethylene-containing copolymers (where copolymer means comprising at least two different monomers) are essentially any of those known in the art, see again WO-A-92/00333 and U.S. patents 5,001,205, 5,198,401, 5,324,800, 5,304,614 and 5,308,816, for specific listings. Selecting and making isotactic or syndiotactic polypropylene-producing metallocenes, see for example Journal of Organometallic Chemistry, 369, 359-370 (1989). Typically those catalysts are stereorigid asymmetric, chiral or bridged chiral metallocenes. See, for example, U.S. patent 4,892,851, U.S. patent 5,017,714, U.S. patent 5,296,434, U.S. patent 5,278,264, WO-A-(PCT/US92/10066) WO-A-93/19103, EP-A2-0 577 581, EP-A1-0 578 838, and academic literature "The Influence of Aromatic Substituents on the Polymerization Behavior of Bridged Zirconocene Catalysts", Spaleck, W., et al, Organometallics 1994, 13, 954-963, and "ansa-Zirconocene Polymerization Catalysts with Annelated Ring Ligands-Effects on Catalytic Activity and Polymer Chain Lengths", Brinzingier, H., et al, Organometallics 1994, 13, 964-970. Though many of the references above are directed to alumoxane activated catalyst systems, analogous metallocenes will be useful with invention co-catalyst activators for active coordination catalyst systems, when the halogen amide, or alkoxy-containing metal ligands (where occurring) are replaced with abstractable ligands as discussed above. See additional description in G. G. Hlatky, "Metallocene catalysts for olefin polymerization Annual review of 1996", Coordination Chemistry Reviews, 181, 243-296 (Elsevier Science, 1999).

Some representative metallocene compounds have the formula :



In this formula, Mc is a Group-3-6 metal. L^A is a substituted or unsubstituted cyclopentadienyl ligand connected to Mc. L^B is a member of the ligands class defined for L^A or L^B is heteroatom ligand, designated J, which is connected to Mc. The L^A and L^B ligands may bridge or connect each other through one or more Group-13-16

element-containing linking groups. L^C_i is an optional neutral, non-oxidizing ligand connected to Mc ($i=0$ to 3). Finally, D and E are independent labile ligands connected to Mc. D & E are optionally bridged to each other or L^A or L^B . This connection can be broken by the activator and monomer can insert into this bond for polymerization. Also, the use of hetero-atom containing rings or fused rings, where a non-carbon Group 13, 14, 15 or 16 atom replaces one of the ring carbons is considered for this specification to be within the terms "cyclopentadienyl", "indenyl", and "fluorenyl". See, for example, the background and teachings of WO 98/37106, having common priority with U.S. Ser. No. 08/999,214, filed 12/29/97, and WO 98/41530, having common priority with U.S. Ser. No. 09/042,378, filed 3/13/98. Substituted cyclopentadienyl structures means that one or more hydrogen atoms is replaced with hydrocarbyl, hydrocarbylsilyl, or similar heteroatom-containing structures. The hydrocarbyl structures specifically include C_1 - C_{30} linear, branched, cyclic alkyl and cycloaromatic fused and pendent rings. These rings may also be substituted with similar structures.

Non-limiting representative metallocene compounds include mono-cyclopentadienyl compounds such as pentamethylcyclopentadienyltitanium isopropoxide, pentamethylcyclopentadienyltribenzyl titanium, dimethylsilyltetramethylcyclopentadienyl-tert-butylamido titanium dichloride, pentamethylcyclopentadienyl titanium trimethyl, dimethylsilyltetramethylcyclopentadienyl-tert-butylamido zirconium dimethyl, dimethylsilyltetramethylcyclopentadienyl-dodecylamido hafnium dihydride, dimethylsilyltetramethylcyclopentadienyl-dodecylamido hafnium dimethyl, unbridged biscyclopentadienyl compounds such as bis(1,3-butyl, methylcyclopentadienyl) zirconium dimethyl, pentamethylcyclopentadienyl-cyclopentadienyl zirconium dimethyl, (tetramethylcyclopentadienyl)(n-propylcyclopentadienyl)zirconium dimethyl; bridged bis-cyclopentadienyl compounds such as dimethylsilylbis(tetrahydroindenyl) zirconium dichloride and silacyclobutyl(tetramethylcyclopentadienyl)(n-propyl-cyclopentadienyl) zirconium dimethyl; bridged bisindenyl compounds such as dimethylsilylbisindenyl zirconium dichloride, dimethylsilylbisindenyl hafnium dimethyl, dimethylsilylbis(2-methylbenzindenyl) zirconium dichloride, dimethylsilylbis(2-methylbenzindenyl) zirconium dimethyl; and fluorenyl ligand-containing compounds, e.g. diphenyl-

methyl(fluorenyl)(cyclopentadienyl)zirconium dimethyl; and the additional mono- and biscyclopentadienyl compounds such as those listed and described in U.S. patents 5,017,714, 5,324,800, WO 92/00333 and EP-A-0 591 756. Particular advantage in solution polymerization can be achieved by the use of aliphatic solvent-soluble precursor compounds, e.g., bis(*para*-triethylsilyl-phenyl) methylene (2, 7-(di-*tert*-butyl) fluorenyl)(cyclopentadienyl) hafnium dimethyl, however, the solubilizing effect of the aliphatic solvent-soluble anion compounds of the invention will tend to offset poor solubility for typical organometallic compound cations useful in olefin polymerization. See copending applications U.S. serial numbers 09/426,099, filed 22 October 1999, and 09/194,595 filed October 1999 for background as to soluble catalysts and specific metallocene and precursor cocatalyst cations useful with the current invention.

Representative traditional Ziegler-Natta transition metal compounds include tetrabenzyl zirconium, tetra bis(trimethylsilylmethyl) zirconium, oxo-tris(trimethylsilylmethyl) vanadium, tetrabenzyl hafnium, tetrabenzyl titanium, bis(hexamethyl disilazido)dimethyl titanium, tris(trimethyl silyl methyl) niobium dichloride, tris(trimethylsilylmethyl) tantalum dichloride. The important features of such compositions for coordination polymerization are the abstractable ligand and that ligand into which the ethylene (olefinic) group can be inserted. These features enable ligand abstraction from the transition metal compound and the concomitant formation of the invention catalysts.

Additional organometallic transition metal compounds suitable as olefin polymerization catalysts in accordance with the invention will be any of those Group 3-10 that can be converted by ligand abstraction or bond scission into a catalytically active cation and that can be stabilized or charge balanced in that active state by a noncoordinating or weakly coordinating anion. The non-coordinating anion should be sufficiently labile to be displaced by an olefinically unsaturated monomer such as ethylene.

Exemplary compounds include those described in the patent literature. International patent publications WO 96/23010, WO 97/48735 and Gibson, et. al., Chem. Comm., pp. 849-850 (1998), disclose diimine-based ligands for Group-8-10 metal compounds shown to be suitable for ionic activation and olefin polymerization.

See also WO 97/48735. Polymerization catalyst systems from Group-5-10 metals wherein the active transition metal center is in a high oxidation state and stabilized by low coordination number polyanionic ancillary ligand systems are described in U.S. patent 5,502,124 and patent 5,504,049. See also the Group-5 organometallic catalyst compounds of U.S. patent 5,851,945 and the tridentate-ligand-containing Group-5-10 organometallic catalyst compounds of copending U.S. application serial number 09/302243. (Filed 29 April 1999, allowed 23 April 2001). Group-11 catalyst precursor compounds, activable (capable of activation) with ionizing cocatalysts, useful for olefins and vinyl-group-containing polar monomers are described and exemplified in WO 99/30822 copending U.S. Patent Application Serial Number 08/991,160. (Filed 16 December 1997; allowed 14 March 2001).

U.S. patent 5,318,935 describes bridged and unbridged, bisamido catalyst compounds of Group-4 metals capable of α -olefins polymerization. Bridged bis(arylamido) Group-4 compounds for olefin polymerization are described by D. H. McConville, et al., in *Organometallics* 1995, 14, 5478-5480. Synthetic methods and compound characterization are presented. Further work appearing in D. H. McConville, et al, *Macromolecules* 1996, 29, 5241-5243, describes bridged bis(arylamido) Group-4 compounds that are polymerization catalysts for 1-hexene. Additional invention-suitable transition metal compounds include those described in WO 96/40805. Cationic Group-3- or Lanthanide-metal olefin polymerization complexes are disclosed in copending U.S. application Ser. No. 09/408050. (Filed 29 September 1999). A monoanionic bidentate ligand and two monoanionic ligands stabilize those catalyst precursors, which are activable with invention ionic cocatalysts.

The literature contains many additional descriptions of suitable catalyst-precursor compounds. Compounds that contain abstractable ligands or that can be alkylated to contain abstractable ligands are suitable for the practice of this invention. See, for instance, V. C. Gibson, *et al*; "The Search for New-Generation Olefin Polymerization Catalysts: Life Beyond Metallocenes", *Angew. Chem. Int. Ed.*, 38, 428-447 (1999).

When using the above catalysts, the catalyst system will generally employ one or more scavenging agents to remove polar impurities from the reaction environment and to increase catalyst activity. Any polymerization reaction components, particu-

larly solvents, monomers, and catalyst feedstreams, can inadvertently introduce impurities and adversely affect catalyst activity and stability. Impurities decrease or even eliminate catalytic activity, particularly with ionizing-anion-activated catalyst systems. Polar impurities (or catalyst poisons) include water, oxygen, metal impurities, etc. Preferably, these impurities are removed from or reduced in the reaction components before the components enter the reaction vessel. Impurities can be removed by chemically treating the components or by impurity-separation steps. Such treatment or separation can occur during or after component synthesis. In any case, the polymerization process will normally employ minor scavenging agent amounts. Typically, these scavengers will be organometallic such as the Group-13 compounds of U.S. Patents 5,153,157; 5,241,025; WO-A-91/09882; WO-A-94/03506; WO-A-93/14132; and WO 95/07941. Exemplary compounds include triethyl aluminum, triethyl borane, triisobutyl aluminum, methylalumoxane, and isobutyl alumoxane. In some embodiments, compounds having bulky or C6-C20 linear hydrocarbyl substituents connected to the metal or metalloid center are used because they coordinate to the active catalyst more weakly. Examples include triethylaluminum; bulky compounds, such as triisobutylaluminum; triisoprenylaluminum, and long-chain, linear-alkyl-substituted aluminum compounds, such as tri-n-hexylaluminum, tri-n-octylaluminum, or tri-n-dodecylaluminum. When alumoxane is used as the activator, any excess over that needed to activate the catalyst can act as a scavenger and additional organometallic scavengers may be unnecessary. Alumoxanes also may be used as scavengers with other activators, e.g., methylalumoxane and triisobutyl-alumoxane with boron-based activators. The scavenger amount is limited to that amount effective to enhance activity (and with that amount necessary for activation when used in a dual role) since excess amounts can poison the catalyst.

Invention catalyst systems can polymerize unsaturated molecules that are conventionally recognized as metallocene polymerizable. Typical conditions include solution, slurry, gas-phase, and high-pressure polymerization. The catalysts may be supported, such as on inorganic oxide or polymeric supports and as such will be useful in those operating modes employing fixed-bed, moving-bed, fluid-bed, slurry, or solution processes conducted in single, series, or parallel reactors. Invention cocata-

lysts can also function in catalyst pre-polymerization. WO 98/55518 describes an invention support method for gas-phase or slurry polymerization.

Alternative embodiments of invention olefin polymerization methods employ the catalyst system in liquid phase (solution, slurry, suspension, bulk phase, or combinations thereof), in high-pressure liquid or supercritical fluid phase, or in gas phase. These processes may also be employed in singular, parallel, or series reactors. The liquid processes comprise contacting olefin molecules with the catalyst system in a suitable diluent or solvent and allowing those molecules to react long enough to produce the invention polymers. The term polymer encompasses both homo- and co-polymers. Both aliphatic and aromatic hydrocarbyl solvents are suitable, e.g., hexane. In bulk and slurry processes, the supported catalysts typically contact a liquid monomer slurry. Gas-phase processes use a supported catalyst and follow any manner suitable for ethylene polymerization. Illustrative examples may be found in U.S. Patents 4,543,399; 4,588,790; 5,028,670; 5,382,638; 5,352,749; 5,408,017; 5,436,304; 5,453,471; and 5,463,999; 5,767,208; and WO 95/07942.

In some embodiments, the minimum polymerization reaction temperature is 40°C. In others, the minimum reaction temperature is 60°C. In some embodiments, the temperature can go as high as 250°C. In others, the temperature does not exceed 220°C. In some embodiments, the minimum reaction pressure is 1 mm Hg; in others, 0.1 bar, and in yet others, 1.0 bar. In some embodiments, the maximum pressure is less than or equal to 2500 bar, in others, 1600 bar or lower, and in yet others, 500 bar or less.

For homogenous solution polymerization, good results can be obtained when the quantity and type of solvent used to introduce the catalyst is controlled as well as the manner of introduction. Generally, skilled artisans believe it preferable to achieve full solution and avoid slurried systems, and hence fairly high concentrations of the catalyst, at low temperatures and to use low solvent amounts. The difficulty of meeting these objectives varies with the solubility of the non-coordinating anion and transition metal components. Some of the more active catalysts or those likely to give a higher molecular weight at a given temperature, may have reduced solubility or may be modified for increased solubility.

Embodiments of the invention are suitable for solution polymerization with bridged fluorenyl metallocene hafnium compounds coupled with naphthyl-group-containing, non-coordinating anions at polymerization temperatures $> 110^{\circ}\text{C}$, for elastomeric olefin copolymers, and, between 160°C and 250°C for plastomeric ethylene copolymers.

Linear polyethylene, including high and ultra-high molecular weight polyethylenes, including both homo- and copolymers with other α -olefin monomers, α -olefinic or non-conjugated diolefins, for example, C_3 - C_{20} olefins, diolefins or cyclic olefins, are produced by adding ethylene, and optionally one or more of the other monomers, to a reaction vessel under low pressure (typically < 50 bar), at a typical temperature of 40 - 250°C with the invention catalyst that has been slurried with a solvent, such as hexane or toluene. Cooling typically removes polymerization heat. Gas-phase polymerization can be conducted, for example, in a continuous fluid bed gas-phase reactor operated at 2000 - 3000 kPa and 60 - 160°C , using hydrogen as a reaction modifier (100 - 200 PPM), C_4 - C_8 comonomer feedstreams (0.5 - 1.2 mol%), and C_2 feedstreams (25 - 35 mol%).

Ethylene- α -olefin (including ethylene-cyclic olefin and ethylene- α -olefin-diolefin) elastomers of high molecular weight and low crystallinity can be prepared using invention catalysts. This preparation uses traditional solution polymerization processes or processes that introduce ethylene into a slurry. The slurry is made up of α -olefin or cyclic olefin, by themselves or mixed together. The slurry also can contain other (un)polymerizable components that act as polymerization diluents and that suspend the catalyst (system). Typical ethylene pressures will be between 10 and 1000 psig (69 - 6895 kPa), and the polymerization diluent temperature typically remains between 40 and 160°C . The process can be carried out in one or more stirred tank reactors, operated in series or parallel.

Other olefinically unsaturated monomers can also be polymerized using invention catalysts, for example, styrene, alkyl-substituted styrenes, isobutylene, and other geminally disubstituted olefins, ethylidene norbornene, norbornadiene, dicyclopentadiene, and other olefinically-unsaturated monomers, including other cyclic olefins, such as cyclopentene, norbornene, alkyl-substituted norbornenes, and vinyl-

group-containing polar monomers capable of coordinating polymerization. See, for example, U.S. Patents 5,635,573, 5,763,556, and WO 99/30822. Additionally, alpha-olefinic macromonomers may also be copolymerized yielding branch-containing olefin polymers. Furthermore, oligomerization, dimerization, hydrogenation, olefin/carbon monoxide copolymerization, hydroformulation, hydrosilation, hydroamination and related catalytic reactions employing organometallic cationic complexes can be accomplished using invention cocatalyst complexes with organometallic compounds suitably selected as known in the art.

Invention catalyst compositions can be used as described above individually for coordination polymerization or can be mixed with other olefin polymerization catalyst compounds to prepare polymer blends. Monomer and catalyst selection allows blends preparation under conditions analogous to those using individual catalyst compositions. Polymers having increased MWD for improved processing and other traditional benefits available from mixed-catalyst-system polymers can thus be achieved.

Blended polymers can be formed *ex situ* using mechanical blending or *in situ* using mixed catalyst systems. *In situ* blending seems to provide a more homogeneous product and allows one-step blend production. *In situ* blending involves combining more than one catalyst (i.e. a mixed catalyst system) in a reactor to simultaneously prepare multiple polymer products. This method requires additional catalyst synthesis. Mixed catalyst systems require catalyst actives to be matched. Furthermore, the polymers the catalysts produce at specific conditions and the catalyst response to changed polymerization conditions must be matched, as well.

In some embodiments the compound comprises a cation $[Ct]^+$ and an anion $[An]^-$. These or other embodiments exist in which the anion comprises a Group-13 element connected to at least one independently selected fluoroaryl ligand that is parasubstituted with a siloxy group represented by the symbols $-SiOR_3$. In those cases, each R is independently a C_1 - C_{30} hydrocarbyl or hydrocarbylsilyl substituent. Other embodiments include compounds represented by the formula: $[Ct]^+ [M(ArF)_n((ArF)OSiR_3)_{4-n}]^-$. In these cases $[Ct]^+$ is an activating cation; M is boron or aluminum; ArF are each, independently, fluoroaryl groups, wherein each fluoroaryl group has at least one fluorine substitution; and R are each, independently, C_1 - C_{20} hy-

drocarbyl or hydrocarbylsilyl substituent attached to the Si atom through a secondary or tertiary carbon atom.

Some embodiments exist in which $[Ct]^+$ is one of anilinium cations, ammonium cations, trityl carbenium cations, Group-11 metal cations, silylium cations, the cations of the hydrated salts of Group-1 or -2 metals, and derivatives of anilinium, ammonium, trityl carbenium, and silylium cations containing C_1 - C_{20} hydrocarbyl, hydrocarbylsilyl, or hydrocarbylamine substituents for one or more hydrogen atoms of the cations.

Also disclosed are embodiments in which ArF is a fluorinated or perfluorinated aryl groups such phenyl, biphenyl, or naphthyl. In at least one embodiment, the fluoroaryl ligands are perfluorophenyl. Moreover, in at least one embodiment each of the fluoroaryl ligands is para-substituted with a siloxy group.

Each R is a C_1 - C_{10} linear, branched, or cyclic, aliphatic hydrocarbyl or hydrocarbylsilyl substituent in some embodiments, and in these or other embodiments, at least one R is alkyltrialkylsilyl where the alkyl groups are 1-20-carbon-atom radicals.

Some invention embodiments can be represented by the formula $[Ct]^+ [M(ArF)_n((ArF)OSiR_3)_{4-n}]$. In these embodiments, $[Ct]^+$ is an anilinium or ammonium cation; ArF is a fluorinated aryl group wherein the aryl moiety is one of phenyl, biphenyl, and naphthyl; and each R is a C_1 - C_{20} hydrocarbyl substituent attached to the Si atom through a secondary carbon atom.

At least one embodiment exists in which the anion $[An]^-$ has the formula $[M((ArF)OSiR_3)_4]^-$.

Some exemplary catalyst systems are disclosed below. The format the list takes is cocatalyst precursor/catalyst precursor.

[isopropyl-ammonium] $^+[(3\text{-}(\text{tri}(\text{isopropyl})\text{siloxy})\text{-perfluorophenyl})\text{bis}(\text{perfluorophenyl})(\text{perfluoroanthracenyl})\text{borate}]^-$ / isopropyl (cyclopentadienyl) (fluorenyl) hafnium dimethyl; [isopropyl-ammonium] $^+[(4\text{-}$

{(triethylsilylmethyl)isopropylonylsiloxy}perfluorophenyl) (pentafluoroanthracenyl)
 (perfluoroanthracenyl) (perfluorobiphenyl)aluminate]⁻/

dimethylsilyl(tetramethylcyclopentadienyl) (adamantylamido) titanium dichloride;
 [isopropyl-ammonium]⁺[(5-{hexylisopropyloctylsiloxy}perfluoroinden-1-yl)bis(2,3,6-
 trifluorophenyl) (perfluoropyrenylborate]⁻/ dimethylsilyl bisindenyl hafnium dimethyl;
 [isopropyl-ammonium]⁺[(5-{isopropylcyclohexyl (3-ethylonyl)siloxy}perfluoronaph-1-
 yl)bis(tetrafluorofluorenyl) (4,5,7-trifluoronaphthyl)borate]⁻/

dimethylsilyl(tetramethylcyclopentadienyl) (tert-butylamido) titanium dichloride;
 [isopropyl-ammonium]⁺[(6-{(2,2-dimethyloctyl)isopropyl(2,2-dimethyloctyl)siloxy}-
 perfluoroanthracen-2-yl) (2',3',5'-trifluorobiphenyl) (2,3,6-trifluorophenyl)
 (perfluorobiphenyl)aluminate]⁻/ diphenylmethylene(cyclopentadienyl) (fluorenyl) hafnium
 dimethyl; [isopropyl-ammonium]⁺[(6-{isopropyl(triethylsilylethyl) (triethylsilylhexyl)siloxy}-
 perfluorofluoren-2-yl)bis(perfluorobiphenyl) (perfluorophenyl)borate]⁻/ (4-n-butylphenyl) (4-t-
 butylphenyl)methylene (fluorenyl) (cyclopentadienyl) hafnium dimethyl;

[methylphenylammonium]⁺[(5-{(triethylsilylmethyl)isopropylbenzylsiloxy}perfluoroinden-1-yl)
 (perfluorofluorenyl) (2,3,6-trifluorophenyl) (5,6,7,8-tetrafluoronaphthyl)borate]⁻/

dimethylsilyl(tetramethylcyclopentadienyl) (tert-butylamido) titanium dichloride;
 [methylphenylammonium]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaph-2-yl) (perfluoronaphthyl)
 (perfluorobiphenyl) (4,5,7-trifluoronaphthyl)borate]⁻/ diphenylmethyl (cyclopentadienyl) (2,7-
 di-t-butyl-fluorenyl) hafnium dimethyl; [methylphenylammonium]⁺[(7-{(triethylsilylpropyl)benzylisopropylsiloxy}perfluoronaph-2-yl) (2,3,6-trifluorophenyl)
 (perfluorofluorenyl) (perfluorophenyl)borate]⁻/ bis(4-(triethylsilyl)phenyl)methylene
 (cyclopentadienyl) (fluorenyl)hafnium dimethyl; [methylphenylammonium]⁺[(7-{(triethylsilylpropyl)benzylisopropylsiloxy}perfluoronaph-2-yl) (2,3,6-trifluorophenyl)
 (perfluorofluorenyl) (perfluorophenyl)borate]⁻/ methylene (indenyl) (2,7-di-t-butyl-fluorenyl)
 hafnium dimethyl; [methylphenyl-phosphonium]⁺[(4'-{tri-(isopropyl)siloxy}perfluorobiphen-4-
 yl) (pentafluoropyrenyl) (4,5,7-trifluoronaphthyl) (2',3',4'-trifluorobiphenyl)borate]⁻/

dimethylsilyl (tetramethylcyclopentadienyl) (t-butylamino) titanium dimethyl;
 [methylphenyl-phosphonium]⁺[(4'-{tri-(isopropyl)siloxy}perfluorobiphen-4-yl)
 (pentafluoropyrenyl) (4,5,7-trifluoronaphthyl) (2',3',4'-trifluorobiphenyl)borate]⁻/ dimethylsilyl
 bis(2-methyl-4-phenyl-indenyl) hafnium dimethyl; [methylphenyl-phosphonium]⁺[(4'-{tri-
 (isopropyl)siloxy}perfluorobiphen-4-yl) (perfluorobiphenyl) (4,5,6,7-tetrafluoronaphthyl)
 (tetrafluorofluorenyl)borate]⁻/ diphenylmethylene (2,7-di-n-butyl fluorenyl) (cyclopentadienyl)

hafnium dimethyl; [methylphenyl-phosphonium]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl) (perfluorophenyl) (4,5,7-trifluoronaphthyl) (perfluorobiphenyl)borate]⁻/ bis(4-triethylsilylphenyl)methylene(cyclopentadienyl) (2,7-di-*t*-butyl-fluorenyl)hafnium dimethyl; [methylphenyl-phosphonium]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl) (perfluorophenyl) (4,5,7-trifluoronaphthyl) (perfluorobiphenyl)borate]⁻/ dimethylsilyl(tetramethylcyclopentadienyl) (adamantylamido) titanium dichloride; [methylphenyl-phosphonium]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl)bis(perfluorophenyl) (perfluoroanthracenyl)borate]⁻/ dimethylsilyl (tetramethylcyclopentadienyl) (adamantyl-1-amino) titanium dimethyl; [methylphenyl-phosphonium]⁺[(6-{tri-*n*-propylsilylhexyl)isopropyloctylsiloxy}perfluoronaph-2-yl) (2',3',5'-trifluorobiphenyl) (tetrafluorofluorenyl) (perfluoropyrenyl)borate]⁻/ (pentamethylcyclopentadienyl) (cyclopentadienyl)zirconium dimethyl; [methylphenyl-phosphonium]⁺[(6-{tri-(isopropyl)siloxy}-perfluorofluoren-1-yl)bis(perfluoroanthracenyl) (perfluorophenyl)borate]⁻/ bis(4-triethylsilylphenyl)methylene(cyclopentadienyl) (fluorenyl)hafnium dimethyl; [methylphenyl-phosphonium]⁺[(7-{(trimethylsilylethyl) (*t*-butyl) (triethylsilylethyl)siloxy}-perfluorofluoren-2-yl) (2,3,4-trifluorophenyl) (4,5,6-trifluoronaphthyl) (perfluorobiphenyl)borate]⁻/ methylene (2,7-di-*t*-butyl fluorenyl) (fluorenyl) hafnium dimethyl; [methylphenyl-phosphonium]⁺[(7-{di-(isopropyl) (2,2-dimethyloctyl)siloxy}perfluorofluoren-1-yl) (perfluorobiphenyl) (5,6,7,8-tetrafluoronaphthyl) (2',3',5'-trifluorobiphenyl)borate]⁻/ di(4-*n*-butylphenyl)methylene (2,7-dimethyl fluorenyl) (cyclopentadienyl) hafnium dimethyl; [methylphenyl-phosphonium]⁺[(7-{ethyl(methyldiethylsilyloctyl)isopropylsiloxy}-perfluoroanthracen-1-yl)bis(perfluorophenyl) (tetrafluorofluorenyl)borate]⁻/ diphenylmethylene (2,7-di-*t*-butyl fluorenyl) (fluorenyl) hafnium dimethyl; [methylphenyl-phosphonium]⁺[(7-{hexylisopropyl (3-ethylnonyl)siloxy}perfluoropyren-2-yl) (2,3,6-trifluorophenyl) (4,5,6-trifluoronaphthyl) (perfluoropyrenyl)borate]⁻/ dimethylsilyl(tetramethylcyclopentadienyl) (*t*-butylamido) zirconium dimethyl; [methylphenyl-phosphonium]⁺[(7-{tri-(isopropyl)siloxy}-perfluoroanthracen-1-yl)bis(4,5,6-trifluoronaphthyl) (2',3',4'-trifluorobiphenyl)borate]⁻/ methylene bis(fluorenyl) hafnium dimethyl; [N,N-di(dodecyl)-anilinium]⁺[(3-{tri-(isopropyl)siloxy}fluorophenyl) (5,6,7,8-tetrafluoronaphthyl) (perfluorofluorenyl) (perfluorobiphenyl)borate]⁻/ dimethylsilyl(tetramethylcyclopentadienyl) (*t*-butylamido) zirconium dimethyl; [N,N-di(dodecyl)-anilinium]⁺[(3-{tri-(isopropyl)siloxy}fluorophenyl) (5,6,7,8-tetrafluoronaphthyl) (perfluorofluorenyl) (perfluorobiphenyl)borate]⁻/ diphenylmethyl

(cyclopentadienyl) (2,7-di-t-butyl-fluorenyl) hafnium dimethyl; [N,N-di(dodecyl)-anilinium]⁺[(4-{di-((methyldiethylsilyloctyl)) (tri-(isopropyl)silyloctyl)siloxy}perfluorophenyl) (pentafluoroanthracenyl) (perfluorobiphenyl) (4,5,6,7-tetrafluoronaphthyl)aluminate]⁻/ diphenylmethylene(cyclopentadienyl) (2,7-methyl-fluorenyl) hafnium dimethyl; [N,N-di(dodecyl)-anilinium]⁺[(4'-{tri-(isopropyl)siloxy}perfluorobiphen-3-yl) (2,3,4-trifluorophenyl) (perfluorobiphenyl) (4,5,6-trifluoronaphthyl)borate]⁻/ dimethylsilyl (indenyl) (fluorenyl) hafnium dihydride; [N,N-di(dodecyl)-anilinium]⁺[(4'-{tri-(isopropyl)siloxy}perfluorobiphen-3-yl) (2,3,4-trifluorophenyl) (perfluorobiphenyl) (4,5,6-trifluoronaphthyl)borate]⁻/ diphenylmethyl (cyclopentadienyl) (2,7-di-t-butyl-fluorenyl) hafnium dimethyl; [N,N-di(dodecyl)-anilinium]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl) (perfluorophenyl) (2,3,5-trifluorophenyl) (perfluoronaphthyl)borate]⁻/ dimethylsilyl bis(2-methyl-indenyl) hafnium dimethyl; [N,N-di(dodecyl)-anilinium]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl) (perfluorophenyl) (4,5,6-trifluoronaphthyl) (perfluorofluorenyl)borate]⁻/ bis(1,3-dibutyl-methyl-cyclopentadienyl) zirconium dimethyl; [N,N-di(dodecyl)-anilinium]⁺[(4-{tri-(isopropyl)siloxy}-perfluorophenyl)bis(perfluorophenyl) (4,5,6-trifluoronaphthyl)aluminate]⁻/ dimethylsilyl (indenyl) (fluorenyl) hafnium dihydride; [N,N-dimethyl-anilinium]⁺[(2'-{(triethylsilylhexyl)benzylisopropylsiloxy}perfluorobiphen-4-yl) (perfluorobiphenyl) (perfluorofluorenyl) (perfluorophenyl)borate]⁻/ (tetramethyl-cyclopentadienyl) (n-propylcyclopentadienyl) zirconium dimethyl; [N,N-dimethyl-anilinium]⁺[(2'-{di-((methyldiethylsilyloctyl))cyclohexylsiloxy}perfluorobiphen-4-yl)bis(perfluorophenyl) (perfluorobiphenyl)borate]⁻/ dimethylsilyl (bisindenyl) zirconium dichloride; [N,N-dimethyl-anilinium]⁺[(2'-{tri-(isopropyl)siloxy}perfluorobiphen-4-yl) (perfluorophenyl) (perfluoroanthracenyl) (perfluorofluorenyl)aluminate]⁻/ diphenylmethyl (fluorenyl) (cyclopentadienyl) zirconium dimethyl; [N,N-dimethyl-anilinium]⁺[(2'-{tri-(isopropyl)siloxy}-perfluorobiphen-4-yl)bis(perfluoropyrenyl) (perfluorophenyl)borate]⁻/ dimethylsilyl bis(2-propyl-indenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(3'-{(t-butyl)isopropyl(triethylsilylhexyl)siloxy}perfluorobiphen-4-yl)bis(perfluorophenyl) (perfluorobiphenyl)borate]⁻/ diphenylmethylene (2,7-di-n-butyl fluorenyl) (cyclopentadienyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(3'-{(triethylsilylhexyl)isopropyl(tri-n-propylsilylhexyl)siloxy}perfluorophenyl) (perfluorobiphenyl) (perfluorophenyl) (4,5,6-trifluoronaphthyl)aluminate]⁻/ diphenylmethylene (2,7-di-t-butyl fluorenyl) (fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(3'-{(triethylsilylhexyl) (3-ethylnonyl)isopropylsiloxy}-perfluorobiphen-4-yl) (perfluoronaphthyl) (4,5,7-trifluoronaphthyl) (2',3',5'-

trifluorobiphenyl)borate]⁻/ (4-alkylphenyl) (4-t-butylphenyl)methylene(cyclopentadienyl) (fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(3'-((triethylsilyl)hexyl) (3-ethylnonyl)isopropylsiloxy)perfluorobiphen-4-yl) (perfluoronaphthyl) (4,5,7-trifluoronaphthyl) (2',3',5'-trifluorobiphenyl)borate]⁻/ (4-n-propylphenyl) (4-isopropylphenyl)methylene (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(3-{benzylisopropylnonylsiloxy}perfluorophenyl)bis(perfluorophenyl) (perfluoroanthracenylaluminate)⁻/ dimethylsilylbis(tetrahydroindenyl) zirconium dichloride; [N,N-dimethyl-anilinium]⁺[(3-{di-((t-butyl)) (3-ethylnonyl)siloxy}-perfluorophenyl)bis(perfluorofluorenyl) (perfluorobiphenyl)borate]⁻/ diphenylmethylene(cyclopentadienyl) (2,7-di-t-butyl-fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(3-{di-(isopropyl)n-butylsiloxy}perfluorophenyl) (4,5,6,7-tetrafluoronaphthyl) (perfluoropyrenyl) (5,6,7,8-tetrafluoronaphthyl)borate]⁻/ dimethylsilyl(tetramethylcyclopentadienyl) (dodecylamido) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(3'-{tri-(isopropyl)siloxy}perfluorobiphen-4-yl)bis(perfluorophenyl) (perfluorobiphenyl)borate]⁻/ bis(1,3-dibutyl-methyl-cyclopentadienyl) zirconium dimethyl; [N,N-dimethyl-anilinium]⁺[(3-{tri-(isopropyl)siloxy}perfluorophenyl) (4,5,6-trifluoronaphthyl) (perfluorobiphenyl) (5,6,7,8-tetrafluoronaphthyl)borate]⁻/ dimethylsilyl bis(phenylmethylindenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(3-{tri-(isopropyl)siloxy}perfluorophenyl) (perfluorophenyl) (perfluorobiphenyl) (2',3',4'-trifluorobiphenyl)aluminate]⁻/ dimethylsilyl bis(2-methyl-4-naphth-2-yl-indenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(3-{tri-(isopropyl)siloxy}-perfluorophenyl)bis(perfluorobiphenyl) (4,5,7-trifluoronaphthyl)borate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene(fluorenyl) (indenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(4-{(3-ethylnonyl)isopropyl(tri-n-propylsilylhexyl)siloxy}perfluorophenyl) (perfluorobiphenyl) (2,3,5-trifluorophenyl) (perfluorophenyl)borate]⁻/ pentamethyl cyclopentadienyl tribenzyl titanium; [N,N-dimethyl-anilinium]⁺[(4'-{(triethylsilylpropyl) (triethylsilylethyl)cyclohexylsiloxy}-perfluorobiphen-3-yl) (2',3',5'-trifluorobiphenyl) (perfluorobiphenyl) (tetrafluorofluorenyl)borate]⁻/ dimethylsilyl bis(naphthylmethylindenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(4-{(triethylsilylpropyl)benzylisopropylsiloxy}perfluorophenyl) (perfluoronaphthyl) (perfluorophenyl) (perfluorobiphenyl)aluminate]⁻/ dimethylsilyl bisindenyl hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(4'-{(2,2-dimethyloctyl) (methyl-diethylsilyloctyl)isopropylsiloxy}perfluorobiphen-3-yl) (perfluorophenyl) (2',3',4'-trifluorobiphenyl) (pentafluoroanthracenyl)aluminate]⁻/ dimethylsilyl (indenyl) (fluorenyl)

hafnium dihydride; [N,N-dimethyl-anilinium]⁺[(4-((methyldiethylsilyloctyl) (t-butyl)isopropylsiloxy)perfluorophenyl)bis(perfluorophenyl) (perfluoronaphthylborate)]⁻ (4-n-propylphenyl) (4-methylphenyl)methylene(fluorenyl) (indenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(4-((methyldiethylsilyloctyl) (t-butyl)isopropylsiloxy)-perfluorophenyl)bis(perfluorophenyl) (perfluoronaphthylborate)]⁻ diphenylmethyl (fluorenyl) (cyclopentadienyl) zirconium dimethyl; [N,N-dimethyl-anilinium]⁺[(4-((methyldiethylsilyloctyl) (t-butyl)isopropylsiloxy)perfluorophenyl)bis(perfluorophenyl) (perfluoronaphthylborate)]⁻ diphenylmethylene (2,7-di-n-butyl fluorenyl) (cyclopentadienyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(4-((methyldiethylsilyloctyl) (t-butyl)isopropylsiloxy)-perfluorophenyl)bis(perfluorophenyl) (perfluoronaphthylborate)]⁻ diphenylmethylene (cyclopentadienyl) (2,7-di-t-butyl fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(4'-((methyldiethylsilyloctyl)nonylisopropylsiloxy)perfluorobiphen-3-yl) (4,5,6,7-tetrafluoronaphthyl) (2,3,5-trifluorophenyl) (pentafluoropyrenyl)borate)]⁻ (4-n-butylphenyl) (4-t-butylphenyl)methylene(2,7-dimethyl-fluorenyl) (indenyl) hafnium dibenzyl; [N,N-dimethyl-anilinium]⁺[(4'-((tri-(isopropyl)silyloctyl) (tri-n-propylsilylhexyl)isopropylsiloxy)-fluorobiphen-4-yl)bis(perfluorophenyl) (2,3,6-trifluorophenylborate)]⁻ diphenylmethylene (2,7-di-n-butyl fluorenyl) (cyclopentadienyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(4-((tri-(isopropyl)silyloctyl)isopropyl (3-ethylnonyl)siloxy)perfluorophenyl)bis(perfluorophenyl) (perfluoropyrenyl)borate)]⁻ (4-alkylphenyl) (4-t-butylphenyl)methylene(cyclopentadienyl) (fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(4-((triethylsilylethyl)isopropylbenzylsiloxy)perfluorophenyl) (4,5,6-trifluoronaphthyl) (2,3,5-trifluorophenyl) (perfluoronaphthyl)borate)]⁻ dimethylsilyl bis(2-methyl-indenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(4-((triethylsilylhexyl)isopropylcyclohexylsiloxy)-perfluorophenyl)bis(2,3,5-trifluorophenyl) (perfluorofluorenyl)borate)]⁻ dimethylsilyl bis(2-methyl-4-naphth-2-yl-indenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(4-((trimethylsilylethyl) (2,2-dimethyloctyl)isopropylsiloxy)perfluorophenyl) (perfluoronaphthyl) (perfluorophenyl) (perfluoroanthracenyl)borate)]⁻ methylene (2,7-di-t-butyl fluorenyl) (fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(4'-((trimethylsilylethyl)isopropyl(2,2-dimethyloctyl)siloxy)perfluorobiphen-3-yl)bis(perfluorophenyl) (5,6,7,8-tetrafluoronaphthylborate)]⁻ dimethylsilyl bis(phenylmethyindenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(4-((benzylisopropyl)nonylsiloxy)perfluorophenyl)bis(perfluorobiphenyl) (2,3,4-trifluorophenyl)borate)]⁻ diphenylmethylene (cyclopentadienyl) (2,7-dimethyl fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(4-di-((t-butyl) (3-ethylnonyl)siloxy)-

fluorophenyl) (4,5,6-trifluoronaphthyl) (2,3,6-trifluorophenyl) (perfluorobiphenyl)borate]⁻/ bis(1,3-dibutyl-methyl-cyclopentadienyl) zirconium dimethyl; [N,N-dimethyl-anilinium]⁺[(4'-{di-(isopropyl) (triethylsilylpropyl)siloxy}perfluorobiphen-4-yl)bis(perfluorophenyl) (4,5,6,7-tetrafluoronaphthyl)borate]⁻/ methylphenylmethylene bis(fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(4'-{isopropyl (3-ethylnonyl) (tri-n-propylsilylhexyl)siloxy}-perfluorophenyl)bis(perfluorophenyl) (perfluoropyrenyl)borate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene(2,7-dimethyl-fluorenyl) (indenyl) hafnium dibenzyl; [N,N-dimethyl-anilinium]⁺[(4'-{isopropyl(triethylsilylhexyl) (triethylsilylethyl)siloxy}perfluorophenyl) (perfluorophenyl) (2',3',5'-trifluorobiphenyl) (perfluoropyrenyl)borate]⁻/ bis(4-triethylsilylphenyl)methylene(cyclopentadienyl) (fluorenyl)hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(4'-{isopropyl(trimethylsilylethyl)isopropylsiloxy}perfluorophenyl) (5,6,7,8-tetrafluoronaphthyl) (perfluorophenyl) (2',3',4'-trifluorobiphenyl)borate]⁻/ (4-n-propylphenyl) (4-methylphenyl)methylene(fluorenyl) (indenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(4'-{isopropyl(trimethylsilylethyl)isopropylsiloxy}perfluorophenyl) (5,6,7,8-tetrafluoronaphthyl) (perfluorophenyl) (2',3',4'-trifluorobiphenyl)borate]⁻/ bis(1,3-dibutyl-methyl-cyclopentadienyl) zirconium dimethyl; [N,N-dimethyl-anilinium]⁺[(4'-{tri-(isopropyl)siloxy}perfluorobiphen-3-yl) (perfluoronaphthyl) (perfluorophenyl) (perfluoropyrenyl)borate]⁻/ di(4-n-butylphenyl)methylene (2,7-dimethyl fluorenyl) (cyclopentadienyl) hafnium dibenzyl; [N,N-dimethyl-anilinium]⁺[(4'-{tri-(isopropyl)siloxy}perfluorobiphen-3-yl)bis(perfluorophenyl) (5,6,7,8-tetrafluoronaphthyl)borate]⁻/ diphenylmethylene (cyclopentadienyl) (2,7-di-t-butyl fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(4'-{tri-(isopropyl)siloxy}perfluorobiphen-4-yl) (4,5,7-trifluoronaphthyl) (2',3',4'-trifluorobiphenyl) (perfluorofluorenyl)borate]⁻/ dimethylsilyl bis(indenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(4'-{tri-(isopropyl)siloxy}-perfluorobiphen-4-yl) (4,5,7-trifluoronaphthyl) (2',3',4'-trifluorobiphenyl) (perfluorofluorenyl)borate]⁻/ methylene (indenyl) (2,7-di-t-butyl-fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(4'-{tri-(isopropyl)siloxy}perfluorobiphen-4-yl) (perfluorofluorenyl) (perfluorobiphenyl) (pentafluoropyrenyl)borate]⁻/ methylene (indenyl) (2,7-di-t-butyl-fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(4'-{tri-(isopropyl)siloxy}perfluorobiphen-4-yl)bis(perfluorobiphenyl) (5,6,7,8-tetrafluoronaphthyl)borate]⁻/ dimethylsilyl(tetramethylcyclopentadienyl) (tert-butylamido) titanium dichloride; [N,N-dimethyl-anilinium]⁺[(4'-{tri-(isopropyl)siloxy}perfluorobiphen-4-yl)bis(perfluorobiphenyl) (5,6,7,8-tetrafluoronaphthyl)borate]⁻/ pentamethyl cyclopentadienyl tribenzyl titanium; [N,N-

dimethyl-anilinium]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl) (2',3',4'-trifluorobiphenyl) (2,3,5-trifluorophenyl) (2,3,6-trifluorophenyl)borate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene(fluorenyl) (indenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl) (2',3',5'-trifluorobiphenyl) (perfluoropyrenyl) (perfluorobiphenyl)borate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene (2,7-di-t-butyl-fluorenyl) (indenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(4-{tri-(isopropyl)siloxy}-perfluorophenyl) (2,3,6-trifluorophenyl) (2,3,5-trifluorophenyl) (perfluorobiphenyl)borate]⁻/ dibutylsilyl (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl) (2,3,6-trifluorophenyl) (2,3,5-trifluorophenyl) (perfluorobiphenyl)borate]⁻/ pentamethylcyclopentadienyl titanium trimethyl; [N,N-dimethyl-anilinium]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl) (perfluorofluorenyl) (2,3,5-trifluorophenyl) (perfluoropyrenyl)aluminate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene(2,7-dimethyl-fluorenyl) (indenyl) hafnium dibenzyl; [N,N-dimethyl-anilinium]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl) (perfluorophenyl) (perfluorobiphenyl) (4,5,6-trifluoronaphthyl)borate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene(fluorenyl) (indenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl) (perfluorophenyl) (perfluorobiphenyl) (4,5,6-trifluoronaphthyl)borate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene (2,7-di-t-butyl-fluorenyl) (indenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(4-{tri-(isopropyl)siloxy}-perfluorophenyl) (perfluorophenyl) (perfluorofluorenyl) (4,5,6,7-tetrafluoronaphthyl)borate]⁻/ di(4-n-butylphenyl)methylene (2,7-dimethyl fluorenyl) (cyclopentadienyl) hafnium dibenzyl; [N,N-dimethyl-anilinium]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl)bis(perfluorobiphenyl) (perfluorophenyl)borate]⁻/ di(4-n-butylphenyl)methylene (2,7-dimethyl fluorenyl) (cyclopentadienyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(4-{tri-(isopropyl)siloxy}-perfluorophenyl)bis(perfluorobiphenyl) (perfluorophenyl)borate]⁻/ dibutylsilyl (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(4-{tri-(isopropyl)siloxy}-perfluorophenyl)bis(perfluorophenyl) (4,5,6,7-tetrafluoronaphthyl)borate]⁻/ bis(4-(triethylsilyl)phenyl)methylene(cyclopentadienyl) (fluorenyl)hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl)bis(perfluorophenyl) (tetrafluorofluorenyl)aluminate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene (2,7-di-t-butyl-fluorenyl) (cyclopentadienyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl)bis(perfluorophenyl) (tetrafluorofluorenyl)aluminate]⁻/ bis(4-

triethylsilylphenyl)methylene(cyclopentadienyl) (fluorenyl)hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(5-{ (3-ethylnonyl)isopropyl(tri-n-propylsilylhexyl)siloxy}perfluoronaphth-2-yl) (2',3',4'-trifluorobiphenyl) (tetrafluorofluorenyl) (perfluoropyrenyl)borate]⁻/ pentamethyl cyclopentadienyl tribenzyl titanium; [N,N-dimethyl-anilinium]⁺[(5-{(2,2-dimethyloctyl) (methyldiethylsilyloctyl)isopropylsiloxy}fluoroinden-2-yl) (perfluoronaphthyl) (perfluorofluorenyl) (perfluoropyrenyl)borate]⁻/ bis(4-(triethylsilyl)phenyl)methylene(cyclopentadienyl) (2,7-di-t-butyl-fluorenyl)hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(5-{(2,2-dimethyloctyl) (methyldiethylsilyloctyl)isopropylsiloxy}-fluoroinden-2-yl) (perfluoronaphthyl) (perfluorofluorenyl) (perfluoropyrenyl)borate]⁻/ dibutylsilyl (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(5-{(2,2-dimethyloctyl) (triethylsilylethyl)isopropylsiloxy}fluoronaphth-3-yl) (perfluoropyrenyl) (perfluorobiphenyl) (perfluorofluorenyl)borate]⁻/ diphenylmethyl (cyclopentadienyl) (2,7-dimethylfluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(5-{(2,2-dimethyloctyl) (triethylsilylethyl)isopropylsiloxy}fluoronaphth-3-yl) (perfluoropyrenyl) (perfluorobiphenyl) (perfluorofluorenyl)borate]⁻/ silacyclobutyl(tetramethylcyclopentadienyl) (n-propylcyclopentadienyl) zirconium dimethyl; [N,N-dimethyl-anilinium]⁺[(5-{(2,2-dimethyloctyl)cyclohexyl(triethylsilylpropyl)siloxy}perfluoroinden-1-yl)bis(perfluorophenyl) (perfluorofluorenyl)borate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene (2,7-di-t-butyl-fluorenyl) (indenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(5-{(2,2-dimethyloctyl)cyclohexyl(triethylsilylpropyl)siloxy}perfluoroinden-1-yl)bis(perfluorophenyl) (perfluorofluorenyl)borate]⁻/ dimethylsilyl (tetramethylcyclopentadienyl) (t-butylamino) titanium dimethyl; [N,N-dimethyl-anilinium]⁺[(5-{(methyldiethylsilyloctyl)isopropyl(tri-isopropyl)silyloctyl)siloxy}perfluoronaphth-2-yl)bis(perfluorophenyl) (perfluorofluorenyl)borate]⁻/ dimethylsilyl bis(indenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(5-{(trimethylsilylethyl) (triethylsilylpropyl)isopropylsiloxy}perfluoroinden-2-yl) (4,5,6,7-tetrafluoronaphthyl) (perfluoroanthracenyl) (pentafluoroanthracenyl)borate]⁻/ bis(trimethylsilyl) titanium dimethyl; [N,N-dimethyl-anilinium]⁺[(5-{cyclohexyl(triethylsilylpropyl)isopropylsiloxy}perfluoroinden-1-yl)bis(4,5,6-trifluoronaphthyl) (tetrafluorofluorenyl)borate]⁻/ dimethylsilyl-bisindenyl hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(5-{di-(isopropyl)hexylsiloxy}perfluoroinden-2-yl) (perfluorophenyl) (perfluoropyrenyl) (tetrafluorofluorenyl)borate]⁻/ bis(trimethylsilyl) titanium dimethyl; [N,N-dimethyl-anilinium]⁺[(5-{isopropyl(methyldiethylsilyloctyl)cyclohexylsiloxy}-perfluoronaphth-1-yl) (perfluorobiphenyl) (perfluorophenyl) (4,5,7-trifluoronaphthyl)borate]⁻/ diphenylmethylene (indenyl) (2,7-di-t-butyl fluorenyl) hafnium dibenzyl; [N,N-

dimethyl-anilinium]⁺[(5-{isopropylcyclohexyl (3-ethylnonyl)siloxy}perfluoronaphth-2-yl)bis(perfluorobiphenyl) (pentafluoropyrenyl)borate]⁻/ di(4-n-butylphenyl)methylene (2,7-dimethyl fluorenyl) (cyclopentadienyl) hafnium dibenzyl; [N,N-dimethyl-anilinium]⁺[(5-{isopropylnonyl(tri-n-propylsilylhexyl)siloxy}perfluoroinden-1-yl) (perfluoropyrenyl) (perfluoroanthracenyl) (perfluorobiphenyl)borate]⁻/ diphenylmethylene (cyclopentadienyl) (2,7-di-t-butyl fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(5-{tri-(isopropyl)siloxy}-fluoronaphth-1-yl) (perfluorobiphenyl) (perfluorophenyl) (pentafluoropyrenyl)borate]⁻/ diphenylmethylene(cyclopentadienyl) (2,7-di-t-butyl-fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(5-{tri-(isopropyl)siloxy}fluoronaphth-3-yl) (perfluorobiphenyl) (pentafluoroanthracenyl) (perfluorophenyl)borate]⁻/ dimethylsilylbis(2-methylbenzindeny) zirconium dimethyl; [N,N-dimethyl-anilinium]⁺[(5-{tri-(isopropyl)siloxy}perfluoroinden-1-yl) (2,3,6-trifluorophenyl) (perfluorofluorenyl) (perfluorophenyl)borate]⁻/ dimethylsilyl bis(naphthylmethylindeny) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(5-{tri-(isopropyl)siloxy}perfluoroinden-1-yl)bis(perfluorobiphenyl) (2',3',5'-trifluorobiphenyl)borate]⁻/ pentamethylcyclopentadienyl titanium trimethyl; [N,N-dimethyl-anilinium]⁺[(5-{tri-(isopropyl)siloxy}perfluoroinden-2-yl) (perfluorobiphenyl) (2,3,5-trifluorophenyl) (5,6,7,8-tetrafluoronaphthyl)borate]⁻/ methylene (indeny) (2,7-di-t-butyl-fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(5-{tri-(isopropyl)siloxy}perfluoroinden-2-yl) (perfluorophenyl) (2',3',4'-trifluorobiphenyl) (perfluorofluorenyl)aluminate]⁻/ isopropyl (cyclopentadienyl) (fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(5-{tri-(isopropyl)siloxy}-perfluoronaphth-3-yl) (5,6,7,8-tetrafluoronaphthyl) (2,3,5-trifluorophenyl) (perfluorophenyl)borate]⁻/ pentamethyl cyclopentadienyl titanium isopropoxide; [N,N-dimethyl-anilinium]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaphth-1-yl) (perfluorobiphenyl) (2,3,5-trifluorophenyl) (2',3',5'-trifluorobiphenyl)borate]⁻/ dimethylsilylbis(tetrahydroindenyl) zirconium dichloride; [N,N-dimethyl-anilinium]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaphth-1-yl) (perfluorobiphenyl) (2,3,5-trifluorophenyl) (2',3',5'-trifluorobiphenyl)borate]⁻/ methylene bis(fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(5-{tri-(isopropyl)siloxy}-perfluoronaphth-1-yl) (perfluorobiphenyl) (perfluoroanthracenyl) (perfluorophenyl)aluminate]⁻/ dimethylsilyl(tetramethylcyclopentadienyl) (dodecylamido) hafnium dihydride; [N,N-dimethyl-anilinium]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaphth-1-yl) (perfluorophenyl) (perfluoropyrenyl) (4,5,7-trifluoronaphthyl)borate]⁻/ pentamethyl cyclopentadienyl titanium isopropoxide; [N,N-dimethyl-anilinium]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaphth-1-

yl)bis(perfluorobiphenyl) (tetrafluorofluorenylborate)⁻/ dimethylsilyl bis(2-methyl-4-naphth-2-yl-indenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaphth-2-yl) (perfluorobiphenyl) (2,3,5-trifluorophenyl) (pentafluoropyrenyl)borate]⁻/ diphenylmethyl (cyclopentadienyl) (2,7-dimethylfluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaphth-2-yl) (perfluorobiphenyl) (2,3,5-trifluorophenyl) (pentafluoropyrenyl)borate]⁻/ diphenylmethylene (cyclopentadienyl) (2,7-di-t-butyl fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaphth-2-yl) (perfluorobiphenyl) (2,3,5-trifluorophenyl) (pentafluoropyrenyl)borate]⁻/ methylene bis(fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(5-{tri-(isopropyl)siloxy}-perfluoronaphth-2-yl) (perfluorophenyl) (tetrafluorofluorenyl) (perfluoropyrenyl)aluminate]⁻/ (4-n-propylphenyl) (4-isopropylphenyl)methylene (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaphth-3-yl) (perfluorophenyl) (2,3,5-trifluorophenyl) (pentafluoroanthracenyl)aluminate]⁻/ dimethylsilyl(tetramethylcyclopentadienyl) (tert-butylamido) titanium dichloride; [N,N-dimethyl-anilinium]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaphth-3-yl) (perfluorophenyl) (2,3,5-trifluorophenyl) (pentafluoroanthracenyl)aluminate]⁻/ methylphenylmethylene bis(fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaphth-3-yl) (tetrafluorofluorenyl) (pentafluoroanthracenyl) (perfluorophenyl)borate]⁻/ silacyclobutyl(tetramethylcyclopentadienyl) (n-propylcyclopentadienyl) zirconium dimethyl; [N,N-dimethyl-anilinium]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaphth-3-yl) (tetrafluorofluorenyl) (perfluorophenyl) (4,5,6,7-tetrafluoronaphthyl)borate]⁻/ (4-n-propylphenyl) (4-isopropylphenyl)methylene (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-{triethylsilylpropyl}benzylisopropylsiloxy)fluoroanthracen-1-yl)bis(perfluoroanthracenyl) (perfluoropyrenylborate)⁻/ bis(4-triethylsilylphenyl)methylene(cyclopentadienyl) (2,7-di-t-butyl-fluorenyl)hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-{triethylsilylpropyl}isopropylononylsiloxy)perfluoroanthracen-1-yl) (perfluorophenyl) (perfluorobiphenyl) (4,5,6,7-tetrafluoronaphthyl)borate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-{(2,2-dimethyloctyl)cyclohexyl(triethylsilylpropyl)siloxy}-perfluoroanthracen-1-yl) (perfluoroanthracenyl) (tetrafluorofluorenyl) (perfluorophenyl)borate]⁻/ dimethylsilyl (indenyl) (fluorenyl) hafnium dihydride; [N,N-dimethyl-anilinium]⁺[(6-{(methyldiethylsilyloctyl)hexyl (3-ethylnonyl)siloxy}perfluorofluoren-2-yl) (perfluorophenyl)

(pentafluoroanthracenyl) (perfluorobiphenyl)borate]⁻/ bis(1,3-dibutyl-methyl-cyclopentadienyl) zirconium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-((tri-(isopropyl)silyloctyl)isopropyl(triethylsilylmethyl)siloxy)perfluorofluoren-2-yl)bis(perfluorophenyl) (perfluorobiphenylaluminat)⁻/ dimethylsilyl (bisindenyl) zirconium dichloride; [N,N-dimethyl-anilinium]⁺[(6-((trimethylsilylethyl)isopropyl(trimethylsilylethyl)siloxy)perfluoroanthracen-1-yl)bis(perfluorophenyl) (pentafluoropyrenylborate]⁻/ (4-alkylphenyl) (4-*t*-butylphenyl)methylene(cyclopentadienyl) (fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-((trimethylsilylethyl)isopropyl(trimethylsilylethyl)siloxy)-perfluoroanthracen-1-yl)bis(perfluorophenyl) (pentafluoropyrenylborate]⁻/ dimethylsilyl bis(2-methyl-4-naphth-2-yl-indenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-((trimethylsilylethyl)isopropyl(trimethylsilylethyl)siloxy)perfluoroanthracen-1-yl)bis(perfluorophenyl) (pentafluoropyrenylborate]⁻/ dimethylsilyl(tetramethylcyclopentadienyl) (adamantylamido) titanium dichloride; [N,N-dimethyl-anilinium]⁺[(6-((benzylisopropyloctyl)siloxy)perfluoronaph-2-yl) (2,3,6-trifluorophenyl) (2,3,5-trifluorophenyl) (perfluoroanthracenyl)borate]⁻/ dimethylsilyl(tetramethylcyclopentadienyl) (adamantylamido) titanium dichloride; [N,N-dimethyl-anilinium]⁺[(6-((benzylnonylisopropyl)siloxy)perfluoronaph-1-yl)bis(perfluorobiphenyl) (perfluoroanthracenyl)borate]⁻/ di(4-*n*-butylphenyl) methylene (fluorenyl) (indenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-((benzylnonylisopropyl)siloxy)perfluoronaph-1-yl)bis(perfluorobiphenyl) (perfluoroanthracenyl)borate]⁻/ dimethylsilyl(tetramethylcyclopentadienyl) (adamantyl-1-amino) titanium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-((cyclohexylisopropyl(tri-(isopropyl)silyloctyl)siloxy)perfluoronaphth-2-yl) (perfluorofluorenyl) (4,5,6,7-tetrafluoronaphthyl) (perfluorobiphenyl)borate]⁻/ bis(trimethylsilyl) titanium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-((cyclohexylisopropyl(tri-(isopropyl)silyloctyl)siloxy)perfluoronaph-1-yl) (pentafluoroanthracenyl) (perfluorophenyl) (tetrafluorofluorenyl)borate]⁻/ dimethylsilyl bis(naphthylmethylindenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-((cyclohexylisopropyl(triethylsilylethyl)siloxy)perfluorofluoren-2-yl) (perfluoropyrenyl) (2',3',5'-trifluorobiphenyl) (perfluorobiphenyl)borate]⁻/ diphenylmethyl (fluorenyl) (cyclopentadienyl) zirconium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-((di-(isopropyl) (methyldiethylsilyloctyl)siloxy)perfluorofluoren-1-yl)bis(4,5,7-trifluoronaphthyl) (4,5,6-trifluoronaphthyl)borate]⁻/ diphenylmethylene (cyclopentadienyl) (2,7-di-*t*-butyl fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-((hexylisopropyl(triethylsilylpropyl)siloxy)-

perfluoronaphth-2-yl) (perfluoroanthracenyl) (4,5,6-trifluoronaphthyl) (4,5,7-trifluoronaphthyl)borate]⁻/ silacyclobutyl(tetramethylcyclopentadienyl) (n-propylcyclopentadienyl) zirconium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-{hexylisopropyl(methyldiethylsilyloctyl)siloxy}fluoroanthracen-2-yl)bis(perfluoroanthracenyl) (perfluorobiphenylaluminumate]⁻/ dimethylsilyl bisindenyl hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-{isopropyl (3-ethylnonyl)hexylsiloxy}perfluoroanthracen-2-yl) (perfluorobiphenyl) (2',3',5'-trifluorobiphenyl) (perfluorophenyl)borate]⁻/ dimethylsilyl bis(naphthylmethylindenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-{isopropylcyclohexylbenzylsiloxy}perfluoroinden-2-yl) (2,3,5-trifluorophenyl) (4,5,6-trifluoronaphthyl) (perfluorophenyl)aluminumate]⁻/ dimethylsilyl bis(tetrahydroindenyl) zirconium dichloride; [N,N-dimethyl-anilinium]⁺[(6-{isopropylcyclohexylbenzylsiloxy}perfluoroinden-2-yl) (2,3,5-trifluorophenyl) (4,5,6-trifluoronaphthyl) (perfluorophenyl)aluminumate]⁻/ diphenylmethylenecyclopentadienyl (2,7-dimethyl fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-{isopropylcyclohexylbenzylsiloxy}perfluoroinden-2-yl) (2,3,5-trifluorophenyl) (4,5,6-trifluoronaphthyl) (perfluorophenyl)aluminumate]⁻/ diphenylmethylenecyclopentadienyl (2,7-di-t-butyl-fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-{isopropylhexyl(tri-n-propylsilylhexyl)siloxy}perfluoronaphth-2-yl) (perfluoropyrenyl) (perfluorofluorenyl) (5,6,7,8-tetrafluoronaphthyl)borate]⁻/ dimethylsilyl bis(2-methyl-indenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-{isopropylnonyl(triethylsilylpropyl)siloxy}perfluorofluoren-1-yl) (4,5,6,7-tetrafluoronaphthyl) (perfluoropyrenyl) (4,5,6-trifluoronaphthyl)borate]⁻/ dibutylsilyl (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-{methyl (3-ethylnonyl)isopropylsiloxy}perfluoronaphth-3-yl) (5,6,7,8-tetrafluoronaphthyl) (perfluorophenyl) (perfluorofluorenyl)borate]⁻/ diphenylmethylenecyclopentadienyl (2,7-di-t-butyl-fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-{nonylbenzylisopropylsiloxy}perfluorofluoren-2-yl)bis(perfluorophenyl) (2',3',4'-trifluorobiphenyl)borate]⁻/ dimethylsilyl bis(2-methyl-4-naphth-2-yl-indenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-{nonylisopropyl(t-butyl)siloxy}perfluoronaphth-1-yl) (4,5,6-trifluoronaphthyl) (perfluoroanthracenyl) (4,5,6,7-tetrafluoronaphthyl)borate]⁻/ diphenylmethylenecyclopentadienyl (fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-{tri-(isopropyl)siloxy}fluoroanthracen-2-yl) (perfluorobiphenyl) (2',3',4'-trifluorobiphenyl) (tetrafluorofluorenyl)borate]⁻/ dimethylsilyl(tetramethylcyclopentadienyl) (tert-butylamido) titanium dichloride; [N,N-dimethyl-anilinium]⁺[(6-{tri-(isopropyl)siloxy}-fluoroanthracen-2-yl) (perfluorobiphenyl) (2',3',4'-trifluorobiphenyl)

(tetrafluorofluorenyl)borate]⁻/ diphenylmethylene(cyclopentadienyl) (2,7-di-t-butyl-fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-{tri-(isopropyl)siloxy}perfluoroanthracen-1-yl) (perfluoropyrenyl) (pentafluoropyrenyl) (perfluorobiphenyl)borate]⁻/ isopropyl (cyclopentadienyl) (fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-{tri-(isopropyl)siloxy}perfluoroanthracen-1-yl)bis(perfluorobiphenyl) (2',3',5'-trifluorobiphenyl)aluminate]⁻/ (4-n-propylphenyl) (4-isopropylphenyl)silylenebis(fluorenyl) hafnium di-t-butyl; [N,N-dimethyl-anilinium]⁺[(6-{tri-(isopropyl)siloxy}perfluoroanthracen-2-yl) (2,3,5-trifluorophenyl) (perfluorophenyl) (perfluorobiphenyl)aluminate]⁻/ dimethylsilyl bis(phenylmethylindeyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-{tri-(isopropyl)siloxy}perfluoroanthracen-2-yl)bis(perfluorobiphenyl) (perfluoropyrenyl)borate]⁻/ diphenylmethylene (2,7-di-n-butyl fluorenyl) (cyclopentadienyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-{tri-(isopropyl)siloxy}perfluorofluoren-1-yl) (2',3',4'-trifluorobiphenyl) (perfluorobiphenyl) (4,5,6-trifluoronaphthyl)borate]⁻/ bis(1,3-dibutyl-methyl-cyclopentadienyl) zirconium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-{tri-(isopropyl)siloxy}perfluorofluoren-1-yl) (2',3',4'-trifluorobiphenyl) (perfluorobiphenyl) (4,5,6-trifluoronaphthyl)borate]⁻/ silacyclobutyl(tetramethylcyclopentadienyl) (n-propylcyclopentadienyl) zirconium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-{tri-(isopropyl)siloxy}perfluorofluoren-1-yl) (perfluorophenyl) (2,3,5-trifluorophenyl) (4,5,6,7-tetrafluoronaphthyl)borate]⁻/ dimethylsilyl bis(2-methyl-4-naphth-2-yl-indenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-{tri-(isopropyl)siloxy}perfluorofluoren-1-yl) (perfluorophenyl) (2,3,5-trifluorophenyl) (4,5,6,7-tetrafluoronaphthyl)borate]⁻/ diphenylmethyl (cyclopentadienyl) (2,7-di-t-butyl-fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-{tri-(isopropyl)siloxy}perfluorofluoren-2-yl) (perfluorobiphenyl) (4,5,6,7-tetrafluoronaphthyl) (perfluoropyrenyl)borate]⁻/ (pentamethylcyclopentadienyl) (cyclopentadienyl)zirconium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-{tri-(isopropyl)siloxy}perfluorofluoren-2-yl) (perfluorobiphenyl) (4,5,6,7-tetrafluoronaphthyl) (perfluoropyrenyl)borate]⁻/ methylene (2,7-di-t-butyl fluorenyl) (fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-{tri-(isopropyl)siloxy}perfluorofluoren-2-yl) (perfluorophenyl) (perfluorofluorenyl) (pentafluoroanthracenyl)borate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene (2,7-di-t-butyl-fluorenyl) (indenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-{tri-(isopropyl)siloxy}perfluorofluoren-2-yl) (perfluorophenyl) (perfluorofluorenyl) (pentafluoroanthracenyl)borate]⁻/ dimethylsilyl bis(phenylmethylindeyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-{tri-(isopropyl)siloxy}perfluoroinden-2-yl)

(pentafluoroanthracenyl) (4,5,6,7-tetrafluoronaphthyl) (perfluorobiphenyl)borate]⁻/ dimethylsilyl (tetramethylcyclopentadienyl) (adamantyl-1-amino) titanium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-{tri-(isopropyl)siloxy}perfluoroinden-2-yl) (perfluorophenyl) (perfluoroanthracenyl) (perfluorobiphenyl)borate]⁻/ di(4-n-propylphenyl)methylene (2,7-di-t-butyl-5-methylfluorenyl) (fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-{tri-(isopropyl)siloxy}perfluoronaphth-3-yl) (perfluoroanthracenyl) (perfluorophenyl) (2,3,4-trifluorophenyl)borate]⁻/ dinaphthylmethylene (cyclopentadienyl) (fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-{tri-(isopropyl)siloxy}perfluoronaphth-1-yl) (pentafluoroanthracenyl) (perfluorophenyl) (perfluorobiphenyl)aluminate]⁻/ dimethylsilylbis(2-methylbenzindenyl) zirconium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-{tri-(isopropyl)siloxy}perfluoronaphth-1-yl) (pentafluoroanthracenyl) (perfluorophenyl) (perfluorobiphenyl)aluminate]⁻/ diphenylmethylene (2,7-di-n-butyl fluorenyl) (cyclopentadienyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-{tri-(isopropyl)siloxy}perfluoronaphth-1-yl) (perfluorofluorenyl) (perfluorophenyl) (perfluorobiphenyl)borate]⁻/ (4-n-propylphenyl) (4-methylphenyl)methylene(fluorenyl) (indenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-{tri-(isopropyl)siloxy}perfluoronaphth-1-yl) (perfluorofluorenyl) (perfluorophenyl) (perfluorobiphenyl)borate]⁻/ dimethylsilylbis(tetrahydroindenyl) zirconium dichloride; [N,N-dimethyl-anilinium]⁺[(6-{tri-(isopropyl)siloxy}perfluoronaphth-1-yl) (perfluorofluorenyl) (perfluorophenyl) (perfluorobiphenyl)borate]⁻/ methylene (2,7-di-t-butyl fluorenyl) (fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-{tri-(isopropyl)siloxy}perfluoronaphth-2-yl) (perfluorobiphenyl) (4,5,7-trifluoronaphthyl) (perfluorophenyl)borate]⁻/ bis(1,3-dibutyl-methyl-cyclopentadienyl) zirconium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-{tri-(isopropyl)siloxy}perfluoronaphth-2-yl) (perfluorobiphenyl) (4,5,7-trifluoronaphthyl) (perfluorophenyl)borate]⁻/ dimethylsilyl bis(naphthylmethylindenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-{tri-(isopropyl)siloxy}perfluoronaphth-2-yl) (perfluorobiphenyl) (4,5,7-trifluoronaphthyl) (perfluorophenyl)borate]⁻/ dimethylsilyl(tetramethylcyclopentadienyl) (tert-butylamido) titanium dichloride; [N,N-dimethyl-anilinium]⁺[(6-{tri-(isopropyl)siloxy}perfluoronaphth-3-yl) (perfluorofluorenyl) (perfluorophenyl) (perfluorobiphenyl)borate]⁻/ dimethylsilylbis(2-methylbenzindenyl) zirconium dimethyl; [N,N-dimethyl-anilinium]⁺[(6-{tri-(isopropyl)siloxy}perfluoronaphth-3-yl) (perfluorophenyl) (2',3',4'-trifluorobiphenyl) (perfluoroanthracenyl)borate]⁻/ (pentamethylcyclopentadienyl) (cyclopentadienyl)zirconium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-{triethylsilylpropyl) (triethylsilylethyl)isopropylsiloxy}perfluoropyren-1-

yl) (2',3',5'-trifluorobiphenyl) (perfluoropyrenyl) (perfluorophenyl)borate]⁻/

dimethylsilylbis(tetrahydroindenyl) zirconium dichloride; [N,N-dimethyl-anilinium]⁺[(7-((2,2-dimethyloctyl) (3-ethylnonyl)isopropylsiloxy)perfluoropyren-2-yl)bis(perfluorobiphenyl) (perfluorophenyl)borate]⁻/ methylene (indenyl) (2,7-di-t-butyl-fluorenyl) hafnium dimethyl;

[N,N-dimethyl-anilinium]⁺[(7-((2,2-dimethyloctyl) (tri-(isopropyl)silyloctyl)isopropylsiloxy)-perfluorofluoren-1-yl) (pentafluoroanthracenyl) (2',3',4'-trifluorobiphenyl) (5,6,7,8-tetrafluoronaphthyl)borate]⁻/ diphenylmethylene(cyclopentadienyl) (2,7-methyl-fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-((2,2-dimethyloctyl) (triethylsilylethyl) (2,2-dimethyloctyl)siloxy)perfluorofluoren-2-yl) (perfluoroanthracenyl) (perfluorobiphenyl) (perfluorofluorenyl)borate]⁻/ methylene (indenyl) (2,7-di-t-butyl-fluorenyl) hafnium dimethyl;

[N,N-dimethyl-anilinium]⁺[(7-((tri-(isopropyl)silyloctyl) (tri-n-propylsilylhexyl)isopropylsiloxy)-perfluoroinden-2-yl) (perfluorobiphenyl) (perfluoronaphthyl) (perfluorophenyl)borate]⁻/ methylphenylmethylene bis(fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-((tri-(isopropyl)silyloctyl) (tri-n-propylsilylhexyl)isopropylsiloxy)perfluoronaphth-1-yl)bis(perfluorobiphenyl) (perfluorophenyl)borate]⁻/ diphenylmethylene (2,7-di-t-butyl-5-methylfluorenyl) (cyclopentadienyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-((tri-(isopropyl)silyloctyl)isopropyl(methyldiethylsilyloctyl)siloxy)perfluoropyren-1-yl) (perfluorofluorenyl) (perfluorobiphenyl) (perfluoroanthracenyl)borate]⁻/ di(4-n-butylphenyl) methylene (fluorenyl) (indenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-((triethylsilylethyl)benzylisopropylsiloxy)perfluoronaphth-2-yl) (2,3,5-trifluorophenyl) (4,5,7-trifluoronaphthyl) (2,3,4-trifluorophenyl)borate]⁻/ dimethylsilyl-bisindenyl hafnium dimethyl;

[N,N-dimethyl-anilinium]⁺[(7-((triethylsilylethyl)benzylisopropylsiloxy)perfluoronaphth-2-yl) (2,3,5-trifluorophenyl) (4,5,7-trifluoronaphthyl) (2,3,4-trifluorophenyl)borate]⁻/ dinaphthylmethylene (cyclopentadienyl) (fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-((triethylsilylethyl)isopropyl(t-butyl)siloxy)perfluoronaphth-1-yl) (perfluorobiphenyl) (perfluorophenyl) (2',3',5'-trifluorobiphenyl)borate]⁻/ dimethylsilyl bis(phenylmethylindenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-((triethylsilylhexyl)isopropyl(triethylsilylethyl)siloxy)perfluoroanthracen-1-yl) (perfluorofluorenyl) (perfluorobiphenyl) (perfluoropyrenyl)aluminate]⁻/ dimethylsilyl bis(2-methyl-4-phenyl-indenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-((triethylsilylhexyl)isopropyl(trimethylsilylethyl)siloxy)perfluoronaphth-1-yl) (perfluorofluorenyl) (2,3,4-trifluorophenyl) (perfluorophenyl)borate]⁻/ dimethylsilyl bis(2-methyl-4-phenyl-indenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-

{(triethylsilylhexyl)isopropyl(trimethylsilylethyl)siloxy}perfluoronaphth-1-yl) (perfluorofluorenyl) (2,3,4-trifluorophenyl) (perfluorophenyl)borate]⁻/ dimethylsilyl bis(methylindenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-((triethylsilylhexyl)nonyl(methyldiethylsilyloctyl)siloxy)-perfluoronaphth-1-yl) (perfluorophenyl) (2,3,5-trifluorophenyl) (4,5,7-trifluoronaphthyl)borate]⁻/ dimethylsilyl bis(2-methyl-indenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-((tri-n-propylsilylhexyl) (methyldiethylsilyloctyl) (t-butyl)siloxy)fluoronaphth-1-yl)bis(perfluorophenyl) (2,3,6-trifluorophenylaluminumate]⁻/ dimethylsilyl bis(phenylmethylindenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-((tri-n-propylsilylhexyl)isopropyl(triethylsilylmethyl)siloxy)-perfluoronaphth-1-yl)bis(2',3',4'-trifluorobiphenyl) (perfluorophenyl)borate]⁻/ dimethylsilyl-bisindenyl hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-((tri-n-propylsilylhexyl)isopropyl(triethylsilylmethyl)siloxy)perfluoronaphth-1-yl)bis(2',3',4'-trifluorobiphenyl) (perfluorophenyl)borate]⁻/ diphenylmethylene (cyclopentadienyl) (2,7-di-t-butyl fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-((tri-n-propylsilylhexyl)isopropylsiloxy)perfluoronaphth-2-yl)bis(2',3',4'-trifluorobiphenyl) (perfluorophenyl)borate]⁻/ methylene (2,7-di-t-butyl fluorenyl) (fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-((benzylisopropyl(triethylsilylethyl)siloxy)perfluoronaphth-2-yl)bis(perfluoropyrenyl) (perfluorobiphenyl)borate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene(fluorenyl) (indenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-((benzylisopropylsiloxy)perfluoronaphth-1-yl) (perfluoropyrenyl) (perfluorobiphenyl) (perfluorophenyl)borate]⁻/ dimethylsilyl bis(2-propyl-indenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-((benzylisopropylsiloxy)perfluoronaphth-1-yl) (perfluoropyrenyl) (perfluorobiphenyl) (perfluorophenyl)borate]⁻/ pentamethyl cyclopentadienyl titanium isopropoxide; [N,N-dimethyl-anilinium]⁺[(7-((cyclohexylisopropyl(tri-isopropyl)silyloctyl)siloxy)perfluoroanthracen-1-yl)bis(perfluorobiphenyl) (perfluoroanthracenyl)borate]⁻/ (tetramethyl-cyclopentadienyl) (n-propylcyclopentadienyl) zirconium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-((cyclohexylisopropyl(tri-isopropyl)silyloctyl)siloxy)perfluoroanthracen-1-yl)bis(perfluorobiphenyl) (perfluoroanthracenyl)borate]⁻/ pentamethyl cyclopentadienyl titanium isopropoxide; [N,N-dimethyl-anilinium]⁺[(7-((cyclohexylisopropyl)nonylsiloxy)perfluoronaphth-1-yl)bis(perfluorobiphenyl) (4,5,6,7-tetrafluoronaphthyl)borate]⁻/ dimethylsilyl (tetramethylcyclopentadienyl) (adamantyl-1-amino) titanium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-((di-((triethylsilylethyl))isopropylsiloxy)perfluoropyren-2-yl) (2',3',4'-trifluorobiphenyl) (perfluorophenyl) (4,5,6,7-tetrafluoronaphthyl)aluminate]⁻/

pentamethylcyclopentadienyl titanium trimethyl; [N,N-dimethyl-anilinium]⁺[(7-{di-((triethylsilyl)hexyl))isopropylsiloxy}fluoronaph-1-yl)bis(perfluorophenyl) (2,3,5-trifluorophenyl)aluminate]⁻/ di(4-n-butylphenyl)methylene (2,7-dimethyl fluorenyl) (cyclopentadienyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-{di-((triethylsilyl)hexyl))isopropylsiloxy}fluoronaph-1-yl)bis(perfluorophenyl) (2,3,5-trifluorophenyl)aluminate]⁻/ methylene (2,7-di-t-butyl fluorenyl) (fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-{di-(isopropyl)n-propylsiloxy}perfluoroinden-2-yl) (perfluorophenyl) (4,5,7-trifluoronaphthyl) (2',3',4'-trifluorobiphenyl)borate]⁻/ dimethylsilyl (tetramethylcyclopentadienyl) (adamantyl-1-amino) titanium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-{hexyl(methyldiethylsilyloctyl))isopropylsiloxy}perfluoroanthracen-1-yl) (pentafluoroanthracenyl) (perfluoronaphthyl) (perfluoropyrenyl)aluminate]⁻/ dimethylsilyl bis(2-methyl-4-naphth-2-yl-indenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-{hexyl(methyldiethylsilyloctyl))isopropylsiloxy}perfluoroanthracen-1-yl) (perfluorophenyl) (2',3',5'-trifluorobiphenyl) (perfluorofluorenyl)borate]⁻/ silacyclobutyl(tetramethylcyclopentadienyl) (n-propylcyclopentadienyl) zirconium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-{hexylisopropyl(t-butyl)siloxy}perfluoroanthracen-1-yl)bis(tetrafluorofluorenyl) (perfluorofluorenyl)borate]⁻/ isopropyl (cyclopentadienyl) (fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-{hexylisopropyl(t-butyl)siloxy}perfluorofluoren-1-yl)bis(perfluorophenyl) (4,5,6,7-tetrafluoronaphthyl)aluminate]⁻/ dimethylsilyl bis(2-methyl-indenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-{isopropyl(triethylsilylethyl) (triethylsilyl)hexyl)siloxy}perfluoropyren-2-yl) (perfluoropyrenyl) (perfluoronaphthyl) (2,3,4-trifluorophenyl)aluminate]⁻/ dimethylsilylbis(tetrahydroindenyl) zirconium dichloride; [N,N-dimethyl-anilinium]⁺[(7-{isopropylcyclohexyl(triethylsilylmethyl)siloxy}perfluoronaphth-3-yl) (perfluoroanthracenyl) (2',3',4'-trifluorobiphenyl) (perfluorophenyl)borate]⁻/ diphenylmethylene (2,7-di-t-butyl fluorenyl) (fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-{isopropylcyclohexyl(triethylsilylmethyl)siloxy}perfluoronaphth-2-yl) (4,5,6,7-tetrafluoronaphthyl) (tetrafluorofluorenyl) (2,3,4-trifluorophenyl)aluminate]⁻/ di(4-n-butylphenyl) methylene (fluorenyl) (indenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-{methyl(triethylsilyl)propyl) (methyldiethylsilyloctyl)siloxy}perfluoropyren-1-yl) (4,5,7-trifluoronaphthyl) (perfluorophenyl) (perfluoronaphthyl)borate]⁻/ dimethylsilyl bis(2-methyl-4-phenyl-indenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-{nonylcyclohexyl(trimethylsilylethyl)siloxy}-perfluoronaphth-3-yl) (2',3',5'-trifluorobiphenyl) (perfluorobiphenyl) (perfluoropyrenyl)aluminate]⁻/ (4-n-propylphenyl) (4-methylphenyl)methylene(fluorenyl)

(indenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-{tri-(isopropyl)siloxy}-fluoroanthracen-1-yl)bis(perfluorophenyl) (2,3,5-trifluorophenylborate)]⁻/ diphenylmethyl (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-{tri-(isopropyl)siloxy}fluoronaph-2-yl)bis(4,5,6-trifluoronaphthyl) (perfluorophenyl)borate)]⁻/ dimethylsilyl bis(phenylmethylindeyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-{tri-(isopropyl)siloxy}perfluoroanthracen-1-yl) (5,6,7,8-tetrafluoronaphthyl) (perfluoroanthracenyl) (2,3,6-trifluorophenyl)borate)]⁻/ dimethylsilyl bis(phenylmethylindeyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-{tri-(isopropyl)siloxy}perfluoroanthracen-1-yl)bis(perfluorophenyl) (perfluoroanthracenyl)borate)]⁻/ diphenylmethylene (2,7-di-t-butyl fluorenyl) (fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-{tri-(isopropyl)siloxy}perfluorofluoren-1-yl) (2,3,4-trifluorophenyl) (4,5,6-trifluoronaphthyl) (perfluorophenyl)borate)]⁻/ diphenylmethyl (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-{tri-(isopropyl)siloxy}-perfluorofluoren-1-yl) (5,6,7,8-tetrafluoronaphthyl) (perfluorobiphenyl) (pentafluoropyrenyl)aluminate)]⁻/ diphenylmethyl (cyclopentadienyl) (2,7-dimethylfluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-{tri-(isopropyl)siloxy}perfluorofluoren-2-yl) (pentafluoroanthracenyl) (perfluorophenyl) (perfluoropyrenyl)borate)]⁻/ methylene bis(fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-{tri-(isopropyl)siloxy}-perfluoroinden-2-yl) (perfluorophenyl) (perfluoronaphthyl) (4,5,6,7-tetrafluoronaphthyl)borate)]⁻/ dimethylsilylbis(2-methylbenzindenyl) zirconium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-{tri-(isopropyl)siloxy}perfluoroinden-2-yl)bis(perfluorophenyl) (4,5,6-trifluoronaphthyl)aluminate)]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene (2,7-di-t-butyl-fluorenyl) (cyclopentadienyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-{tri-(isopropyl)siloxy}perfluoronaphth-3-yl)bis(perfluorofluorenyl) (perfluorophenyl)borate)]⁻/ dimethylsilylbis(tetrahydroindenyl) zirconium dichloride; [N,N-dimethyl-anilinium]⁺[(7-{tri-(isopropyl)siloxy}perfluoronaphth-3-yl)bis(perfluorofluorenyl) (perfluorophenyl)borate)]⁻/ diphenylmethyl (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-{tri-(isopropyl)siloxy}-perfluoronaphth-1-yl) (perfluorobiphenyl) (perfluorophenyl) (2,3,5-trifluorophenyl)aluminate)]⁻/ dimethylsilylbis(2-methylbenzindenyl) zirconium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-{tri-(isopropyl)siloxy}perfluoronaphth-1-yl) (perfluorofluorenyl) (perfluoropyrenyl) (2',3',4'-trifluorobiphenyl)borate)]⁻/ dimethylsilyl bis(phenylmethylindeyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-{tri-(isopropyl)siloxy}perfluoronaphth-2-yl) (perfluorobiphenyl) (4,5,7-trifluoronaphthyl) (5,6,7,8-tetrafluoronaphthyl)aluminate)]⁻/ (4-n-butylphenyl) (4-t-

butylphenyl)methylene(fluorenyl) (indenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-{tri-(isopropyl)siloxy}perfluoronaphth-3-yl) (2,3,4-trifluorophenyl) (perfluoropyrenyl) (perfluorophenyl)borate]⁻/ di(4-n-propylphenyl)methylene (2,7-di-t-butyl-5-methylfluorenyl) (fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-{tri-(isopropyl)siloxy}-perfluoronaphth-3-yl) (2,3,4-trifluorophenyl) (perfluoropyrenyl) (perfluorophenyl)borate]⁻/ dimethylsilyl (indenyl) (fluorenyl) hafnium dihydride; [N,N-dimethyl-anilinium]⁺[(7-{tri-(isopropyl)siloxy}perfluoronaphth-3-yl) (2,3,4-trifluorophenyl) (perfluoropyrenyl) (perfluorophenyl)borate]⁻/ methylene (indenyl) (2,7-di-t-butyl-fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-{tri-(isopropyl)siloxy}perfluoronaphth-3-yl) (perfluorofluorenyl) (4,5,7-trifluoronaphthyl) (perfluorobiphenyl)aluminate]⁻/ isopropyl (cyclopentadienyl) (fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-{tri-(isopropyl)siloxy}-perfluoronaphth-3-yl) (perfluorophenyl) (pentafluoroanthracenyl) (perfluoropyrenyl)aluminate]⁻/ dimethylsilyl(tetramethylcyclopentadienyl) (tert-butylamido) titanium dichloride; [N,N-dimethyl-anilinium]⁺[(7-{tri-(isopropyl)siloxy}perfluoronaphth-3-yl) (perfluorophenyl) (perfluoropyrenyl) (perfluorobiphenyl)aluminate]⁻/ di(4-n-butylphenyl)methylene (2,7-dimethyl fluorenyl) (cyclopentadienyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-{tri-(isopropyl)siloxy}perfluoronaphth-3-yl)bis(perfluorofluorenyl) (perfluoronaphthyl)borate]⁻/ dimethylsilyl bis(indenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-{tri-(isopropyl)siloxy}perfluoronaphth-3-yl)bis(perfluorofluorenyl) (perfluoronaphthyl)borate]⁻/ dimethylsilylbis(tetrahydroindenyl) zirconium dichloride; [N,N-dimethyl-anilinium]⁺[(7-{tri-(isopropyl)siloxy}perfluoropyren-1-yl) (pentafluoroanthracenyl) (perfluoroanthracenyl) (perfluoronaphthyl)borate]⁻/ dimethylsilyl(tetramethylcyclopentadienyl) (tert-butylamido) titanium dichloride; [N,N-dimethyl-anilinium]⁺[(7-{tri-(isopropyl)siloxy}perfluoropyren-1-yl)bis(perfluorobiphenyl) (4,5,6,7-tetrafluoronaphthylborate]⁻/ di(4-n-butylphenyl)methylene (2,7-di-t-butyl fluorenyl) (indenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-{tri-(isopropyl)siloxy}perfluoropyren-1-yl)bis(perfluorobiphenyl) (4,5,6,7-tetrafluoronaphthylborate]⁻/ diphenylmethyl (cyclopentadienyl) (2,7-dimethylfluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-{tri-(isopropyl)siloxy}perfluoropyren-1-yl)bis(perfluorobiphenyl) (4,5,6,7-tetrafluoronaphthylborate]⁻/ pentamethylcyclopentadienyl titanium trimethyl; [N,N-dimethyl-anilinium]⁺[(7-{tri-(isopropyl)siloxy}perfluoropyren-2-yl) (2,3,6-trifluorophenyl) (2,3,4-trifluorophenyl) (4,5,7-trifluoronaphthyl)borate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene (2,7-di-t-butyl-fluorenyl) (cyclopentadienyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-{tri-(isopropyl)siloxy}perfluoropyren-2-yl) (2,3,6-

trifluorophenyl) (2,3,4-trifluorophenyl) (4,5,7-trifluoronaphthyl)borate]⁻/ methylene (2,7-di-t-butyl fluorenyl) (fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(7-{tri-(isopropyl)siloxy}perfluoropyren-2-yl)bis(perfluorobiphenyl) (4,5,7-trifluoronaphthyl)borate]⁻/ dimethylsilyl bis(2-propyl-indenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(8-{(methyldiethylsilyloctyl)isopropylcyclohexylsiloxy}perfluoronaph-3-yl) (4,5,6-trifluoronaphthyl) (perfluorofluorenyl) (2,3,4-trifluorophenyl)borate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene(2,7-dimethyl-fluorenyl) (indenyl) hafnium dibenzyl; [N,N-dimethyl-anilinium]⁺[(8-{(methyldiethylsilyloctyl)isopropylcyclohexylsiloxy}perfluoronaph-3-yl) (4,5,6-trifluoronaphthyl) (perfluorofluorenyl) (2,3,4-trifluorophenyl)borate]⁻/ diphenylmethylene(cyclopentadienyl) (2,7-di-t-butyl-fluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(8-{(triethylsilylethyl)benzylisopropylsiloxy}perfluoronaph-3-yl)bis(perfluorophenyl) (2,3,5-trifluorophenyl)borate]⁻/ dimethylsilyl (tetramethylcyclopentadienyl) (adamantyl-1-amino) titanium dimethyl; [N,N-dimethyl-anilinium]⁺[(8-{(trimethylsilylethyl) (2,2-dimethyloctyl)isopropylsiloxy}perfluoropyren-2-yl) (2',3',5'-trifluorobiphenyl) (perfluorophenyl) (perfluorofluorenyl)borate]⁻/ dimethylsilyl (tetramethylcyclopentadienyl) (t-butylamino) titanium dimethyl; [N,N-dimethyl-anilinium]⁺[(8-{di-(isopropyl) (triethylsilylhexyl)siloxy}perfluoropyren-2-yl)bis(perfluorophenyl) (perfluoroanthracenyl)borate]⁻/ diphenylmethylene (2,7-di-t-butyl-5-methylfluorenyl) (cyclopentadienyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(8-{isopropyl(t-butyl)isopropylsiloxy}perfluoropyren-2-yl)bis(perfluorobiphenyl) (2',3',5'-trifluorobiphenyl)borate]⁻/ silacyclobutyl(tetramethylcyclopentadienyl) (n-propylcyclopentadienyl) zirconium dimethyl; [N,N-dimethyl-anilinium]⁺[(8-{tri-(isopropyl)siloxy}perfluoronaph-3-yl) (2,3,4-trifluorophenyl) (perfluoropyrenyl) (perfluorobiphenyl)borate]⁻/ diphenylmethyl (cyclopentadienyl) (2,7-dimethylfluorenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(8-{tri-(isopropyl)siloxy}perfluoronaph-3-yl) (5,6,7,8-tetrafluoronaphthyl) (4,5,7-trifluoronaphthyl) (perfluorobiphenyl)borate]⁻/ bis(4-(triethylsilyl)phenyl)methylene(cyclopentadienyl) (2,7-di-t-butyl-fluorenyl)hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(8-{tri-(isopropyl)siloxy}perfluoropyren-2-yl) (perfluorobiphenyl) (perfluoropyrenyl) (perfluorophenyl)aluminate]⁻/ dimethylsilyl bis(naphthylmethylindenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(8-{tri-(isopropyl)siloxy}perfluoropyren-2-yl) (2',3',4'-trifluorobiphenyl) (tetrafluorofluorenyl) (perfluorophenyl)borate]⁻/ dimethylsilyl bis(methylindenyl) hafnium dimethyl; [N,N-dimethyl-anilinium]⁺[(8-{tri-(isopropyl)siloxy}-perfluoropyren-2-yl) (perfluoroanthracenyl) (perfluorobiphenyl) (4,5,7-

trifluoronaphthyl)aluminate]⁻/ diphenylmethyl (fluorenyl) (cyclopentadienyl) zirconium dimethyl; [N,N-dimethyl-anilinium]⁺[(8-{tri-(isopropyl)siloxy}perfluoropyren-2-yl) (perfluorofluorenyl) (perfluorobiphenyl) (perfluorophenyl)borate]⁻/ diphenylmethyl (cyclopentadienyl) (2,7-di-t-butyl-fluorenyl) hafnium dimethyl; [N-methyl-N-dodecyl-anilinium]⁺[(4'-{(methyldiethylsilyloctyl)hexylisopropylsiloxy}perfluorobiphen-3-yl) (pentafluoropyrenyl) (perfluoropyrenyl) (perfluoroanthracenyl)borate]⁻/ (4-n-propylphenyl) (4-isopropylphenyl)silylenebis(fluorenyl) hafnium di-t-butyl; [N-methyl-N-dodecyl-anilinium]⁺[(4-{di-((tri-(isopropyl)silyloctyl) (methyldiethylsilyloctyl)siloxy}perfluorophenyl) (perfluorobiphenyl) (2,3,6-trifluorophenyl) (4,5,7-trifluoronaphthyl)borate]⁻/ dimethylsilyl bis(indenyl) hafnium dimethyl; [N-methyl-N-dodecyl-anilinium]⁺[(4'-{tri-(isopropyl)siloxy}perfluorobiphen-3-yl)bis(perfluoroanthracenyl) (2,3,5-trifluorophenyl)borate]⁻/ dimethylsilyl bis(2-methyl-4-naphth-2-yl-indenyl) hafnium dimethyl; [N-methyl-N-dodecyl-anilinium]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl) (tetrafluorofluorenyl) (pentafluoroanthracenyl) (perfluorophenyl)borate]⁻/ methylphenylmethylene bis(fluorenyl) hafnium dimethyl; [N-methyl-N-dodecyl-anilinium]⁺[(6-{(triethylsilylhexyl)isopropyl(triethylsilylethyl)siloxy}-perfluoroinden-2-yl)bis(perfluoroanthracenyl) (2,3,4-trifluorophenyl)aluminate]⁻/ dimethylsilyl bis(2-methyl-4-phenyl-indenyl) hafnium dimethyl; [N-methyl-N-dodecyl-anilinium]⁺[(6-{tri-(isopropyl)siloxy}perfluoronaph-2-yl)bis(perfluorobiphenyl) (perfluoropyrenyl)borate]⁻/ bis(trimethylsilyl) titanium dimethyl; [N-methyl-N-dodecyl-anilinium]⁺[(7-{(2,2-dimethyloctyl)isopropyl(triethylsilylethyl)siloxy}fluoroinden-2-yl) (tetrafluorofluorenyl) (perfluorophenyl) (2',3',5'-trifluorobiphenyl)aluminate]⁻/ dimethylsilyl bis(phenylmethylindenyl) hafnium dimethyl; [N-methyl-N-dodecyl-anilinium]⁺[(7-{(2,2-dimethyloctyl)isopropyl(triethylsilylethyl)siloxy}fluoroinden-2-yl) (tetrafluorofluorenyl) (perfluorophenyl) (2',3',5'-trifluorobiphenyl)aluminate]⁻/ diphenylmethyl (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [N-methyl-N-dodecyl-anilinium]⁺[(7-{(trimethylsilylethyl) (triethylsilylethyl)isopropylsiloxy}perfluoroanthracen-1-yl) (perfluorophenyl) (perfluoroanthracenyl) (2',3',5'-trifluorobiphenyl)aluminate]⁻/ dimethylsilyl bisindenyl hafnium dimethyl; [N-methyl-N-dodecyl-anilinium]⁺[(7-{isopropyl(tri-n-propylsilylhexyl) (triethylsilylethyl)siloxy}perfluorofluoren-2-yl) (perfluoroanthracenyl) (perfluorophenyl) (perfluorobiphenyl)aluminate]⁻/ diphenylmethylene(cyclopentadienyl) (2,7-di-t-butyl-fluorenyl) hafnium dimethyl; [N-methyl-N-dodecyl-anilinium]⁺[(7-{isopropylcyclohexyl (3-ethylnonyl)siloxy}perfluoropyren-1-yl)bis(perfluorophenyl) (perfluorobiphenyl)aluminate]⁻/ bis(4-triethylsilylphenyl)methylene(cyclopentadienyl) (2,7-di-t-butyl-fluorenyl)hafnium

dimethyl; [N-methyl-N-dodecyl-anilinium]⁺[(7-{isopropylcyclohexyl (3-ethylnonyl)siloxy}-perfluoropyren-1-yl)bis(perfluorophenyl) (perfluorobiphenyl)aluminate]⁻/ methylene (indenyl) (2,7-di-*t*-butyl-fluorenyl) hafnium dimethyl; [N-methyl-N-dodecyl-anilinium]⁺[(7-{methyl(triethylsilyl)propyl) (methyl-diethylsilyloctyl)siloxy}perfluoropyren-1-yl) (2,3,6-trifluorophenyl) (perfluoroanthracenyl) (2',3',4'-trifluorobiphenyl)borate]⁻/ bis(4-triethylsilylphenyl)methylene(cyclopentadienyl) (fluorenyl)hafnium dimethyl; [N-methyl-N-dodecyl-anilinium]⁺[(7-{tri-(isopropyl)siloxy}perfluorofluoren-2-yl) (perfluoropyrenyl) (tetrafluorofluorenyl) (perfluorobiphenyl)aluminate]⁻/ bis(1,3-dibutyl-methyl-cyclopentadienyl) zirconium dimethyl; [tri-3,5-dimethylphenylammonium]⁺[(4-{(2,2-dimethyloctyl)isopropyl (3-ethylnonyl)siloxy}perfluorophenyl) (4,5,7-trifluoronaphthyl) (perfluorofluorenyl) (2',3',4'-trifluorobiphenyl)borate]⁻/ (pentamethylcyclopentadienyl) (cyclopentadienyl)zirconium dimethyl; [tri-3,5-dimethylphenylammonium]⁺[(4-{(2,2-dimethyloctyl)isopropyl (3-ethylnonyl)siloxy}perfluorophenyl) (4,5,7-trifluoronaphthyl) (perfluorofluorenyl) (2',3',4'-trifluorobiphenyl)borate]⁻/ dimethylsilyl (tetramethylcyclopentadienyl) (t-butylamino) titanium dimethyl; [tri-3,5-dimethylphenylammonium]⁺[(4-{(trimethylsilylethyl)isopropyl (triethylsilylpropyl)siloxy}perfluorophenyl) (perfluorobiphenyl) (2,3,5-trifluorophenyl) (tetrafluorofluorenyl)borate]⁻/ dimethylsilylbis(2-methylbenzindenyl) zirconium dimethyl; [tri-3,5-dimethylphenylammonium]⁺[(4-{(trimethylsilylethyl)isopropyl (triethylsilylpropyl)siloxy}perfluorophenyl) (perfluorobiphenyl) (2,3,5-trifluorophenyl) (tetrafluorofluorenyl)borate]⁻/ diphenylmethylene (2,7-di-*n*-butyl fluorenyl) (cyclopentadienyl) hafnium dimethyl; [tri-3,5-dimethylphenylammonium]⁺[(4'-{di-(isopropyl) (tri-(isopropyl)silyloctyl)siloxy}perfluorobiphen-3-yl) (perfluorophenyl) (tetrafluorofluorenyl) (4,5,7-trifluoronaphthyl)borate]⁻/ dimethylsilyl bis(2-methyl-4-naphth-2-yl-indenyl) hafnium dimethyl; [tri-3,5-dimethylphenylammonium]⁺[(4'-{di-(isopropyl) (tri-(isopropyl)silyloctyl)siloxy}perfluorobiphen-3-yl) (perfluorophenyl) (tetrafluorofluorenyl) (4,5,7-trifluoronaphthyl)borate]⁻/ dimethylsilyl(tetramethylcyclopentadienyl) (adamantylamido) titanium dichloride; [tri-3,5-dimethylphenylammonium]⁺[(4'-{di-(isopropyl) (tri-(isopropyl)silyloctyl)siloxy}perfluorobiphen-3-yl) (perfluorophenyl) (tetrafluorofluorenyl) (4,5,7-trifluoronaphthyl)borate]⁻/ dimethylsilyl(tetramethylcyclopentadienyl) (dodecylamido) hafnium dihydride; [tri-3,5-dimethylphenylammonium]⁺[(5-{tri-(isopropyl)siloxy}perfluoroinden-1-yl)bis(perfluorophenyl) (2,3,6-trifluorophenyl)borate]⁻/ diphenylmethylene(cyclopentadienyl) (fluorenyl) hafnium dimethyl; [tri-3,5-dimethylphenylammonium]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaphth-2-yl)

(perfluorofluorenyl) (perfluorobiphenyl) (pentafluoropyrenyl)borate]⁻/ diphenylmethylene (2,7-di-*t*-butyl fluorenyl) (fluorenyl) hafnium dimethyl; [tri-3,5-dimethylphenylammonium]⁺[(7-{tri-(isopropyl)siloxy}fluoropyren-2-yl) (perfluoronaphthyl) (2',3',5'-trifluorobiphenyl) (pentafluoroanthracenyl)aluminate]⁻/ (4-*n*-butylphenyl) (4-*t*-butylphenyl)methylene(2,7-dimethyl-fluorenyl) (indenyl) hafnium dibenzyl

; [tri-3,5-dimethylphenylammonium]⁺[(7-{tri-(isopropyl)siloxy}fluoropyren-2-yl) (perfluoronaphthyl) (2',3',5'-trifluorobiphenyl) (pentafluoroanthracenyl)aluminate]⁻/ dimethylsilyl (tetramethylcyclopentadienyl) (*t*-butylamino) titanium dimethyl; [tri-3,5-dimethylphenylammonium]⁺[(8-{tri-(isopropyl)siloxy}perfluoropyren-2-yl) (perfluorophenyl) (2',3',5'-trifluorobiphenyl) (2,3,6-trifluorophenyl)borate]⁻/ dimethylsilyl bis(indenyl) hafnium dimethyl; [tri-3,5-dimethylphenyl-phosphonium]⁺[(4-{ (3-ethylnonyl) (methyldiethylsilyloctyl)isopropylsiloxy}perfluorophenyl) (perfluorophenyl) (tetrafluorofluorenyl) (4,5,7-trifluoronaphthyl)borate]⁻/ (4-*n*-butylphenyl) (4-*t*-butylphenyl)methylene (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [tri-3,5-dimethylphenyl-phosphonium]⁺[(4-{(*t*-butyl)nonyl(methyldiethylsilyloctyl)siloxy}perfluorophenyl)bis(perfluorobiphenyl) (perfluoropyrenyl)aluminate]⁻/ diphenylmethyl (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [tri-3,5-dimethylphenyl-phosphonium]⁺[(4-{hexylisopropylbenzylsiloxy}perfluorophenyl) (4,5,7-trifluoronaphthyl) (pentafluoropyrenyl) (perfluorobiphenyl)borate]⁻/ dimethylsilylbis(tetrahydroindenyl) zirconium dichloride; [tri-3,5-dimethylphenyl-phosphonium]⁺[(4'-{isopropylcyclohexyl(methyldiethylsilyloctyl)siloxy}-perfluorobiphen-4-yl) (perfluorophenyl) (2',3',5'-trifluorobiphenyl) (pentafluoropyrenyl)borate]⁻/ dimethylsilylbis(tetrahydroindenyl) zirconium dichloride; [trimethyl-phosphonium]⁺[(5-{ (3-ethylnonyl)isopropyl(tri-*n*-propylsilylhexyl)siloxy}perfluoroinden-1-yl) (4,5,7-trifluoronaphthyl) (5,6,7,8-tetrafluoronaphthyl) (perfluorophenyl)borate]⁻/ dimethylsilyl bis(naphthylmethylindenyl) hafnium dimethyl; [trimethyl-phosphonium]⁺[(5-{ (3-ethylnonyl)isopropyl(tri-*n*-propylsilylhexyl)siloxy}perfluoroinden-1-yl) (4,5,7-trifluoronaphthyl) (5,6,7,8-tetrafluoronaphthyl) (perfluorophenyl)borate]⁻/ silacyclobutyl(tetramethylcyclopentadienyl) (*n*-propylcyclopentadienyl) zirconium dimethyl; [trimethyl-phosphonium]⁺[(7-{di-((triethylsilyl)ethyl)isopropylsiloxy}perfluoroanthracen-1-yl) (perfluorophenyl) (pentafluoropyrenyl) (4,5,6,7-tetrafluoronaphthyl)aluminate]⁻/ diphenylmethyl (cyclopentadienyl) (fluorenyl) hafnium dimethyl; [trimethyl-phosphonium]⁺[(7-{di-(isopropyl)benzylsiloxy}perfluoronaph-2-yl) (4,5,6-trifluoronaphthyl) (2,3,6-trifluorophenyl) (perfluorophenyl)aluminate]⁻/ di(4-*n*-butylphenyl)methylene (2,7-dimethyl fluorenyl)

(cyclopentadienyl) hafnium dimethyl; [trimethyl-phosphonium]⁺[(7-(di-(isopropyl)benzylsiloxy)perfluoronaphth-2-yl) (4,5,6-trifluoronaphthyl) (2,3,6-trifluorophenyl) (perfluorophenyl)aluminate]⁻/ pentamethyl cyclopentadienyl tribenzyl titanium; [trimethyl-phosphonium]⁺[(7-(tri-(isopropyl)siloxy)perfluoroanthracen-1-yl) (4,5,6-trifluoronaphthyl) (2,3,5-trifluorophenyl) (2',3',5'-trifluorobiphenyl)borate]⁻/ bis(4-(triethylsilyl)phenyl)methylene(cyclopentadienyl) (2,7-di-t-butyl-fluorenyl)hafnium dimethyl; [trimethyl-phosphonium]⁺[(7-(tri-(isopropyl)siloxy)perfluoroanthracen-1-yl) (pentafluoroanthracenyl) (4,5,7-trifluoronaphthyl) (perfluorobiphenyl)borate]⁻/ methylphenylmethylene bis(fluorenyl) hafnium dimethyl; [tri-n-butyl-ammonium]⁺[(4-(tri-(isopropyl)siloxy)perfluorophenyl) (2',3',4'-trifluorobiphenyl) (2,3,6-trifluorophenyl) (perfluorophenyl)borate]⁻/ pentamethylcyclopentadienyl titanium trimethyl; [tri-n-butyl-ammonium]⁺[(5-(hexylisopropyl) (triethylsilylpropyl)siloxy)perfluoronaphth-3-yl) (5,6,7,8-tetrafluoronaphthyl) (perfluoropyrenyl) (perfluorofluorenyl)borate]⁻/ dimethylsilylbis(tetrahydroindenyl) zirconium dichloride; [tri-n-butyl-ammonium]⁺[(5-(tri-(isopropyl)siloxy)perfluoroinden-2-yl) (2',3',5'-trifluorobiphenyl) (4,5,6,7-tetrafluoronaphthyl) (pentafluoroanthracenyl)borate]⁻/ dimethylsilyl bis(methylindenyl) hafnium dimethyl; [tri-n-butyl-ammonium]⁺[(5-(tri-(isopropyl)siloxy)perfluoronaphth-3-yl) (perfluorobiphenyl) (perfluorophenyl) (perfluoroanthracenyl)aluminate]⁻/ methylphenylmethylene bis(fluorenyl) hafnium dimethyl; [tri-n-butyl-ammonium]⁺[(5-(tri-(isopropyl)siloxy)perfluoronaphth-3-yl) (perfluoropyrenyl) (perfluorobiphenyl) (2',3',4'-trifluorobiphenyl)borate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene(2,7-dimethyl-fluorenyl) (indenyl) hafnium dibenzyl; [tri-n-butyl-ammonium]⁺[(5-(tri-(isopropyl)siloxy)perfluoronaphth-3-yl) (perfluoropyrenyl) (perfluorobiphenyl) (2',3',4'-trifluorobiphenyl)borate]⁻/ dibutylsilyl (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [tri-n-butyl-ammonium]⁺[(6-(tri-(isopropyl)siloxy)perfluoroanthracen-1-yl) (perfluorofluorenyl) (4,5,6,7-tetrafluoronaphthyl) (perfluorobiphenyl)borate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene (2,7-di-t-butyl-fluorenyl) (cyclopentadienyl) hafnium dimethyl; [tri-n-butyl-ammonium]⁺[(6-(tri-(isopropyl)siloxy)perfluoroanthracen-1-yl) (perfluorofluorenyl) (4,5,6,7-tetrafluoronaphthyl) (perfluorobiphenyl)borate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [tri-n-butyl-ammonium]⁺[(6-(tri-(isopropyl)siloxy)perfluoroanthracen-2-yl) (perfluoropyrenyl) (perfluorobiphenyl) (perfluorophenyl)borate]⁻/ dimethylsilyl bis(2-methyl-4-naphth-2-yl-indenyl) hafnium dimethyl; [tri-n-butyl-ammonium]⁺[(6-(tri-(isopropyl)siloxy)-

perfluoroanthracen-2-yl) (perfluoropyrenyl) (perfluorobiphenyl) (perfluorophenyl)borate]⁻/
 dimethylsilyl bis(2-methyl-4-phenyl-indenyl) hafnium dimethyl; [tri-n-butyl-ammonium]⁺[(6-{tri-
 (isopropyl)siloxy}perfluoroanthracen-2-yl) (perfluoropyrenyl) (perfluorobiphenyl)
 (perfluorophenyl)borate]⁻/ dimethylsilyl bisindenyl hafnium dimethyl; [tri-n-
 butyl-ammonium]⁺[(6-{tri-(isopropyl)siloxy}perfluoroanthracen-2-yl) (perfluoropyrenyl)
 (perfluorobiphenyl) (perfluorophenyl)borate]⁻/ diphenylmethyl (cyclopentadienyl) (2,7-
 dimethylfluorenyl) hafnium dimethyl; [tri-n-butyl-ammonium]⁺[(6-{tri-(isopropyl)siloxy}-
 perfluoroanthracen-2-yl) (perfluoropyrenyl) (perfluorobiphenyl) (perfluorophenyl)borate]⁻/
 isopropyl (cyclopentadienyl) (fluorenyl) hafnium dimethyl; [tri-n-butyl-ammonium]⁺[(6-{tri-
 (isopropyl)siloxy}perfluoroinden-2-yl)bis(perfluorobiphenyl) (perfluoropyrenylaluminat)⁻/
 dimethylsilyl bisindenyl hafnium dimethyl; [tri-n-butyl-ammonium]⁺[(6-{tri-(isopropyl)siloxy}-
 perfluoronaph-1-yl) (2',3',5'-trifluorobiphenyl) (4,5,6-trifluoronaphthyl)
 (perfluorobiphenyl)borate]⁻/ (4-n-propylphenyl) (4-isopropylphenyl)silylenebis(fluorenyl)
 hafnium di-t-butyl; [tri-n-butyl-ammonium]⁺[(7-{(2,2-dimethyloctyl) (triethylsilylethyl) (2,2-
 dimethyloctyl)siloxy}perfluorofluoren-2-yl)bis(perfluorobiphenyl)
 (perfluorofluorenyl)aluminat)⁻/ (tetramethyl-cyclopentadienyl) (n-propylcyclopentadienyl)
 zirconium dimethyl; [tri-n-butyl-ammonium]⁺[(7-{di-(t-butyl) (3-ethylnonyl)siloxy}-
 perfluoronaph-2-yl)bis(perfluorofluorenyl) (4,5,6-trifluoronaphthyl)aluminat)⁻/ di(4-n-
 butylphenyl) methylene (fluorenyl) (indenyl) hafnium dimethyl; [tri-n-butyl-ammonium]⁺[(7-
 {methyl(triethylsilylethyl)isopropylsiloxy}fluoroinden-2-yl) (perfluorobiphenyl) (perfluorophenyl)
 (4,5,7-trifluoronaphthyl)aluminat)⁻/ methylene (2,7-di-t-butyl fluorenyl) (fluorenyl) hafnium
 dimethyl; [tri-n-butyl-ammonium]⁺[(7-{tri-(isopropyl)siloxy}perfluorofluoren-1-yl)
 (perfluoropyrenyl) (perfluorophenyl) (4,5,6-trifluoronaphthyl)borate]⁻/
 dimethylsilyl(tetramethylcyclopentadienyl) (dodecylamido) hafnium dimethyl; [tri-n-
 butyl-ammonium]⁺[(7-{tri-(isopropyl)siloxy}perfluorofluoren-1-yl) (perfluoropyrenyl)
 (perfluorophenyl) (4,5,6-trifluoronaphthyl)borate]⁻/ diphenylmethylene (2,7-di-t-butyl-5-
 methylfluorenyl) (cyclopentadienyl) hafnium dimethyl; [tri-n-butyl-ammonium]⁺[(7-{tri-
 (isopropyl)siloxy}perfluoropyren-1-yl) (2',3',5'-trifluorobiphenyl) (perfluoroanthracenyl)
 (perfluorophenyl)borate]⁻/ (4-n-propylphenyl) (4-isopropylphenyl)methylene (fluorenyl)
 (cyclopentadienyl) hafnium dimethyl; [tri-n-butyl-ammonium]⁺[(8-{(3-ethylnonyl)isopropyl(t-
 butyl)siloxy}perfluoronaph-3-yl) (pentafluoropyrenyl) (2,3,6-trifluorophenyl)
 (perfluorophenyl)borate]⁻/ diphenylmethyl (fluorenyl) (cyclopentadienyl) hafnium dimethyl;
 [tri-n-butyl-phosphonium]⁺[(3'-{tri-(isopropyl)siloxy}perfluorobiphen-4-yl)bis(perfluorofluorenyl)

(perfluorobiphenylaluminate)⁻/ dimethylsilyl (indenyl) (fluorenyl) hafnium dihydride; [tri-n-butyl-phosphonium]⁺[(4-{(t-butyl) (methyldiethylsilyloctyl) (tri-n-propylsilylhexyl)siloxy}-perfluorophenyl) (2,3,6-trifluorophenyl) (perfluorobiphenyl) (perfluorophenyl)borate]⁻/ di(4-n-butylphenyl)methylene (2,7-di-t-butyl fluorenyl) (cyclopentadienyl) hafnium dimethyl; [tri-n-butyl-phosphonium]⁺[(4-{octyl(methyldiethylsilyloctyl)isopropylsiloxy}-perfluorophenyl)bis(perfluorophenyl) (perfluoroanthracenyl)borate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene(2,7-dimethyl-fluorenyl) (indenyl) hafnium dibenzyl; [tri-n-butyl-phosphonium]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl) (5,6,7,8-tetrafluoronaphthyl) (perfluorobiphenyl) (pentafluoroanthracenyl)borate]⁻/ dimethylsilylbis(2-methylbenzindenyl) zirconium dimethyl; [tri-n-butyl-phosphonium]⁺[(4-{tri-(isopropyl)siloxy}-perfluorophenyl)bis(5,6,7,8-tetrafluoronaphthyl) (perfluorobiphenyl)aluminate]⁻/ diphenylmethylene (indenyl) (2,7-di-t-butyl fluorenyl) hafnium dibenzyl; [tri-n-butyl-phosphonium]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaph-1-yl)bis(perfluorobiphenyl) (perfluoropyrenyl)borate]⁻/ dimethylsilyl bis(phenylmethylindenyl) hafnium dimethyl; [tri-n-butyl-phosphonium]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaph-1-yl)bis(perfluorobiphenyl) (perfluoropyrenyl)borate]⁻/ diphenylmethyl (cyclopentadienyl) (fluorenyl) hafnium dimethyl; [tri-n-butyl-phosphonium]⁺[(6-{di-(tri-(isopropyl)silyloctyl)isopropylsiloxy}perfluoroanthracen-1-yl) (perfluorophenyl) (perfluorobiphenyl) (2,3,4-trifluorophenyl)borate]⁻/ dimethylsilyl bis(methylindenyl) hafnium dimethyl; [tri-n-butyl-phosphonium]⁺[(6-{nonylisopropyl(tri-n-propylsilylhexyl)siloxy}fluoronaph-3-yl) (perfluorobiphenyl) (4,5,7-trifluoronaphthyl) (2,3,6-trifluorophenyl)aluminate]⁻/ (tetramethyl-cyclopentadienyl) (n-propylcyclopentadienyl) zirconium dimethyl; [tri-n-butyl-phosphonium]⁺[(6-{tri-(isopropyl)siloxy}perfluoronaph-1-yl) (perfluoropyrenyl) (pentafluoropyrenyl) (2',3',5'-trifluorobiphenyl)borate]⁻/ diphenylmethylene (2,7-di-t-butyl-5-methylfluorenyl) (cyclopentadienyl) hafnium dimethyl; [tri-n-butyl-phosphonium]⁺[(7-{tri-(isopropyl)siloxy}fluoroinden-2-yl) (perfluoronaphthyl) (perfluorobiphenyl) (2',3',5'-trifluorobiphenyl)aluminate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [tri-n-butyl-phosphonium]⁺[(7-{tri-(isopropyl)siloxy}perfluoropyren-1-yl) (5,6,7,8-tetrafluoronaphthyl) (perfluoronaphthyl) (perfluoropyrenyl)borate]⁻/ dibutylsilyl (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [tri-n-butyl-phosphonium]⁺[(7-{tri-(isopropyl)siloxy}perfluoropyren-1-yl) (perfluoropyrenyl) (perfluorofluorenyl) (perfluorophenyl)borate]⁻/ (tetramethyl-cyclopentadienyl) (n-propylcyclopentadienyl) zirconium dimethyl; [tri-n-

butyl-phosphonium]⁺[(7-{tri-(isopropyl)siloxy}perfluoropyren-1-yl)bis(perfluoroanthracenyl) (pentafluoroanthracenyl)borate]⁻/ di(4-n-butylphenyl)methylene (2,7-di-t-butyl fluorenyl) (cyclopentadienyl) hafnium dimethyl; [tri-n-butyl-phosphonium]⁺[(7-{tri-(isopropyl)siloxy}-perfluoropyren-1-yl)bis(perfluoroanthracenyl) (pentafluoroanthracenyl)borate]⁻/ dimethylsilyl(tetramethylcyclopentadienyl) (dodecylamido) hafnium dimethyl; [tri-N-octylammonium]⁺[(2'-[isopropyl(triethylsilylhexyl)isopropylsiloxy}perfluorobiphen-4-yl) (perfluorobiphenyl) (pentafluoroanthracenyl) (perfluorophenyl)borate]⁻/ diphenylmethyl (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(2'-[octylisopropyl(tri-(isopropyl)silyloctyl)siloxy}perfluorobiphen-4-yl) (perfluoropyrenyl) (pentafluoropyrenyl) (4,5,6-trifluoronaphthyl)borate]⁻/ di(4-n-butylphenyl)methylene (2,7-dimethyl fluorenyl) (cyclopentadienyl) hafnium dibenzyl; [tri-N-octylammonium]⁺[(2'-[tri-(isopropyl)siloxy}-perfluorobiphen-4-yl)bis(perfluorophenyl) (perfluoropyrenylaluminat)⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(3'-{(triethylsilylpropyl) (triethylsilylethyl)cyclohexylsiloxy}perfluorobiphen-4-yl) (perfluorofluorenyl) (perfluoropyrenyl) (perfluorobiphenyl)borate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene(fluorenyl) (indenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(3'-{(triethylsilylpropyl) (triethylsilylethyl)cyclohexylsiloxy}perfluorobiphen-4-yl) (perfluorofluorenyl) (perfluoropyrenyl) (perfluorobiphenyl)borate]⁻/ bis(4-triethylsilylphenyl)methylene(cyclopentadienyl) (2,7-di-t-butyl-fluorenyl)hafnium dimethyl; [tri-N-octylammonium]⁺[(3'-{(triethylsilylpropyl)isopropylonylsiloxy}perfluorobiphen-4-yl)bis(perfluorophenyl) (perfluorobiphenyl)borate]⁻/ bis(trimethylsilyl) titanium dimethyl; [tri-N-octylammonium]⁺[(3'-{(methyldiethylsilyloctyl)benzylisopropylsiloxy}perfluorobiphen-4-yl)bis(perfluorophenyl) (perfluoropyrenyl)borate]⁻/ dimethylsilylbis(2-methylbenzindenyl) zirconium dimethyl; [tri-N-octylammonium]⁺[(3-{benzyl(triethylsilylethyl)isopropylsiloxy}-perfluorophenyl) (perfluorofluorenyl) (2',3',5'-trifluorobiphenyl) (perfluoropyrenyl)borate]⁻/ diphenylmethylene (2,7-di-t-butyl fluorenyl) (fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(3'-{benzylisopropyl(triethylsilylmethyl)siloxy}perfluorobiphen-4-yl) (perfluorobiphenyl) (perfluoroanthracenyl) (perfluorofluorenyl)borate]⁻/ diphenylmethylene (cyclopentadienyl) (2,7-di-t-butyl fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(3'-{benzylisopropyl(triethylsilylmethyl)siloxy}perfluorobiphen-4-yl) (perfluorobiphenyl) (perfluoroanthracenyl) (perfluorofluorenyl)borate]⁻/ methylene bis(fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(3-{di-(t-butyl) (3-ethylonyl)siloxy}fluorophenyl) (perfluoropyrenyl)

(4,5,6-trifluoronaphthyl) (perfluorofluorenyl)borate]⁻/ diphenylmethene (cyclopentadienyl) (2,7-di-t-butyl fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(3-{di-((t-butyl)) (3-ethylnonyl)siloxy}fluorophenyl) (perfluoropyrenyl) (4,5,6-trifluoronaphthyl) (perfluorofluorenyl)borate]⁻/ diphenylmethene(cyclopentadienyl) (fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(3-{di-(hexyl)isopropylsiloxy}fluorophenyl) (4,5,6-trifluoronaphthyl) (perfluoroanthracenyl) (perfluoronaphthyl)borate]⁻/ dimethylsilylbis(2-methylbenzindenyl) zirconium dimethyl; [tri-N-octylammonium]⁺[(3-{tri-(isopropyl)siloxy}-fluorobiphen-4-yl) (pentafluoropyrenyl) (perfluoroanthracenyl) (perfluoronaphthyl)borate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene(2,7-dimethyl-fluorenyl) (indenyl) hafnium dibenzyl; [tri-N-octylammonium]⁺[(3'-{tri-(isopropyl)siloxy}fluorobiphen-4-yl) (pentafluoropyrenyl) (perfluoroanthracenyl) (perfluoronaphthyl)borate]⁻/ dimethylsilylbis(tetrahydroindenyl) zirconium dichloride; [tri-N-octylammonium]⁺[(3-{tri-(isopropyl)siloxy}perfluorophenyl) (2,3,5-trifluorophenyl) (tetrafluorofluorenyl) (pentafluoropyrenyl)borate]⁻/ diphenylmethene (cyclopentadienyl) (2,7-di-t-butyl fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(3-{tri-(isopropyl)siloxy}perfluorophenyl) (2,3,5-trifluorophenyl) (tetrafluorofluorenyl) (pentafluoropyrenyl)borate]⁻/ isopropyl (cyclopentadienyl) (fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(3-{tri-(isopropyl)siloxy}perfluorophenyl) (perfluoropyrenyl) (perfluorophenyl) (4,5,6-trifluoronaphthyl)borate]⁻/ (4-n-propylphenyl) (4-isopropylphenyl)silylenebis(fluorenyl) hafnium di-t-butyl; [tri-N-octylammonium]⁺[(3-{tri-(isopropyl)siloxy}perfluorophenyl) (perfluoropyrenyl) (perfluorophenyl) (4,5,6-trifluoronaphthyl)borate]⁻/ dimethylsily (bisindenyl) zirconium dichloride; [tri-N-octylammonium]⁺[(3-{tri-(isopropyl)siloxy}perfluorophenyl) (perfluoropyrenyl) (perfluorophenyl) (4,5,6-trifluoronaphthyl)borate]⁻/ methylene (indenyl) (2,7-di-t-butyl-fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(3-{tri-(isopropyl)siloxy}-perfluorophenyl)tris(perfluorophenyl)aluminate]⁻/ dimethylsilylbis(2-methylbenzindenyl) zirconium dimethyl; [tri-N-octylammonium]⁺[(3-{tri-(isopropyl)siloxy}-perfluorophenyl)tris(perfluorophenyl)aluminate]⁻/ diphenylmethene (2,7-di-t-butyl fluorenyl) (fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(4-{ (3-ethylnonyl) (triethylsilylpropyl)isopropylsiloxy}perfluorophenyl) (pentafluoroanthracenyl) (perfluorophenyl) (2,3,5-trifluorophenyl)aluminate]⁻/ bis(1,3-dibutyl-methyl-cyclopentadienyl) zirconium dimethyl; [tri-N-octylammonium]⁺[(4'-{(methyldiethylsilyloctyl) (triethylsilylhexyl) (triethylsilylmethyl)siloxy}perfluorobiphen-3-yl)bis(perfluorophenyl) (perfluoroanthracenyl)aluminate]⁻/ bis(4-(triethylsilyl)phenyl)methylene(cyclopentadienyl)

(fluorenyl)hafnium dimethyl; [tri-N-octylammonium]⁺[(4'-{(tri-(isopropyl)silyloctyl) (3-ethylnonyl) (2,2-dimethyloctyl)siloxy}perfluorobiphen-4-yl) (tetrafluorofluorenyl) (2,3,4-trifluorophenyl) (2,3,5-trifluorophenyl)aluminate]⁻/ dibutylsilyl (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(4'-{(triethylsilylethyl)isopropyl(2,2-dimethyloctyl)siloxy}perfluorophenyl)bis(perfluorophenyl) (perfluoropyrenyl)borate]⁻/ diphenylmethyl (cyclopentadienyl) (fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(4'-{(triethylsilylmethyl)isopropylbenzylsiloxy}perfluorobiphen-3-yl) (tetrafluorofluorenyl) (perfluorophenyl) (perfluoroanthracenyl)borate]⁻/ dimethylsilyl (tetramethylcyclopentadienyl) (adamantyl-1-amino) titanium dimethyl; [tri-N-octylammonium]⁺[(4'-{(tri-n-propylsilylhexyl) (methyldiethylsilyloctyl) (t-butyl)siloxy}perfluorophenyl) (perfluorophenyl) (perfluoroanthracenyl) (perfluorobiphenyl)aluminate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene (2,7-di-t-butyl-fluorenyl) (cyclopentadienyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(4'-{(tri-n-propylsilylhexyl)isopropyl(triethylsilylpropyl)siloxy}-perfluorophenyl)bis(perfluorobiphenyl) (2,3,5-trifluorophenyl)aluminate]⁻/ (4-n-propylphenyl) (4-isopropylphenyl)methylene (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(4'-{(tri-n-propylsilylhexyl)isopropyl(triethylsilylpropyl)siloxy}-perfluorophenyl)bis(perfluorobiphenyl) (2,3,5-trifluorophenyl)aluminate]⁻/ diphenylmethylene (cyclopentadienyl) (2,7-dimethyl fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(4'-{(di-(cyclohexyl) (tri-(isopropyl)silyloctyl)siloxy}perfluorobiphen-4-yl) (tetrafluorofluorenyl) (perfluoroanthracenyl) (perfluorophenyl)borate]⁻/ methylene bis(fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(4'-{(di-(isopropyl) (triethylsilylhexyl)siloxy}perfluorobiphen-3-yl) (perfluorofluorenyl) (perfluorobiphenyl) (perfluoroanthracenyl)borate]⁻/ (4-alkylphenyl) (4-t-butylphenyl)methylene(cyclopentadienyl) (fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(4'-{(di-(isopropyl)ethylsiloxy}perfluorophenyl) (4,5,6,7-tetrafluoronaphthyl) (perfluoropyrenyl) (perfluorophenyl)borate]⁻/ di(4-n-butylphenyl)methylene (2,7-dimethyl fluorenyl) (cyclopentadienyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(4'-{(ethyl(methyldiethylsilyloctyl)isopropylsiloxy}perfluorophenyl)bis(tetrafluorofluorenyl) (2,3,4-trifluorophenyl)borate]⁻/ dimethylsilyl (tetramethylcyclopentadienyl) (t-butylamino) titanium dimethyl; [tri-N-octylammonium]⁺[(4'-{(hexyl(triethylsilylhexyl)isopropylsiloxy}-perfluorophenyl)bis(2',3',4'-trifluorobiphenyl) (perfluorofluorenyl)borate]⁻/ dimethylsilyl/bis(2-methylbenzindanyl) zirconium dimethyl; [tri-N-octylammonium]⁺[(4'-{(isopropyl (3-ethylnonyl) (methyldiethylsilyloctyl)siloxy}perfluorophenyl)bis(perfluoroanthracenyl) (perfluorophenyl)borate]⁻/ bis(4-triethylsilylphenyl)methylene(cyclopentadienyl) (2,7-di-t-butyl-

fluorenyl)hafnium dimethyl; [tri-N-octylammonium]⁺[(4-{isopropyl(2,2-dimethyloctyl)isopropylsiloxy}perfluorophenyl) (perfluorofluorenyl) (2,3,6-trifluorophenyl) (2',3',5'-trifluorobiphenyl)borate]⁻/ dimethylsilyl bis(2-propyl-indenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(4-{isopropyl(t-butyl) (tri-(isopropyl)silyloctyl)siloxy}perfluorophenyl) (perfluorobiphenyl) (perfluorophenyl) (perfluoroanthracenyl)borate]⁻/ bis(1,3-dibutyl-methylcyclopentadienyl) zirconium dimethyl; [tri-N-octylammonium]⁺[(4'-{isopropyl(trimethylsilylethyl)isopropylsiloxy}perfluorobiphen-3-yl) (perfluoropyrenyl) (tetrafluorofluorenyl) (perfluorobiphenyl)aluminate]⁻/ dimethylsilyl bisindenyl hafnium dimethyl; [tri-N-octylammonium]⁺[(4-{isopropylhexyl(triethylsilylpropyl)siloxy}-perfluorophenyl) (2,3,6-trifluorophenyl) (perfluoropyrenyl) (tetrafluorofluorenyl)borate]⁻/ (4-n-propylphenyl) (4-methylphenyl)methylene(fluorenyl) (indenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(4-{isopropylnonyl(triethylsilylpropyl)siloxy}-perfluorophenyl)bis(perfluorophenyl) (perfluorofluorenyl)aluminate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(4'-{nonylisopropyl(t-butyl)siloxy}fluorobiphen-4-yl)bis(perfluorophenyl) (4,5,7-trifluoronaphthyl)borate]⁻/ diphenylmethyl (cyclopentadienyl) (fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(4-{tri-(isopropyl)siloxy}fluorophenyl) (2',3',4'-trifluorobiphenyl) (2',3',5'-trifluorobiphenyl) (perfluoropyrenyl)borate]⁻/ dimethylsilyl(tetramethylcyclopentadienyl) (dodecylamido) hafnium dimethyl; [tri-N-octylammonium]⁺[(4'-{tri-(isopropyl)siloxy}perfluorobiphen-3-yl) (2',3',4'-trifluorobiphenyl) (2,3,6-trifluorophenyl) (4,5,7-trifluoronaphthyl)borate]⁻/ dimethylsilylbis(2-methylbenzindenyl) zirconium dimethyl; [tri-N-octylammonium]⁺[(4'-{tri-(isopropyl)siloxy}perfluorobiphen-3-yl) (perfluorophenyl) (2,3,4-trifluorophenyl) (perfluoronaphthyl)aluminate]⁻/ (pentamethylcyclopentadienyl) (cyclopentadienyl)zirconium dimethyl; [tri-N-octylammonium]⁺[(4'-{tri-(isopropyl)siloxy}perfluorobiphen-4-yl) (5,6,7,8-tetrafluoronaphthyl) (perfluoroanthracenyl) (pentafluoropyrenyl)aluminate]⁻/ bis(4-triethylsilylphenyl)methylene(cyclopentadienyl) (2,7-di-t-butyl-fluorenyl)hafnium dimethyl; [tri-N-octylammonium]⁺[(4'-{tri-(isopropyl)siloxy}perfluorobiphen-4-yl) (perfluorofluorenyl) (perfluorobiphenyl) (5,6,7,8-tetrafluoronaphthyl)aluminate]⁻/ diphenylmethylene (cyclopentadienyl) (2,7-di-t-butyl fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(4'-{tri-(isopropyl)siloxy}perfluorobiphen-4-yl) (perfluorophenyl) (perfluorofluorenyl) (perfluorobiphenyl)borate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene (fluorenyl)

(cyclopentadienyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(4'-{tri-(isopropyl)siloxy}-perfluorobiphen-4-yl)bis(perfluorophenyl) (perfluorobiphenyl)aluminate]⁻/dinaphthylmethylene (cyclopentadienyl) (fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(4'-{tri-(isopropyl)siloxy}perfluorobiphen-4-yl)bis(perfluorophenyl) (perfluorobiphenyl)borate]⁻/di(4-n-butylphenyl)methylene (2,7-dimethyl fluorenyl) (cyclopentadienyl) hafnium dibenzyl; [tri-N-octylammonium]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl) (2,3,4-trifluorophenyl) (4,5,7-trifluoronaphthyl) (perfluoropyrenyl)borate]⁻/dimethylsilyl bisindenyl hafnium dimethyl; [tri-N-octylammonium]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl) (2,3,4-trifluorophenyl) (4,5,7-trifluoronaphthyl) (perfluoropyrenyl)borate]⁻/methylene bis(fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl) (2,3,5-trifluorophenyl) (perfluorophenyl) (perfluorofluorenyl)borate]⁻/dimethylsilylbis(tetrahydroindenyl) zirconium dichloride; [tri-N-octylammonium]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl) (2,3,6-trifluorophenyl) (perfluorophenyl) (perfluorobiphenyl)borate]⁻/dimethylsilyl(tetramethylcyclopentadienyl) (t-butylamido) zirconium dimethyl; [tri-N-octylammonium]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl) (4,5,6,7-tetrafluoronaphthyl) (perfluoroanthracenyl) (2,3,6-trifluorophenyl)aluminate]⁻/diphenylmethyl (cyclopentadienyl) (2,7-dimethylfluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(4-{tri-(isopropyl)siloxy}-perfluorophenyl) (4,5,6-trifluoronaphthyl) (perfluorophenyl) (5,6,7,8-tetrafluoronaphthyl)aluminate]⁻/dimethylsilyl bis(2-propyl-indenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl) (perfluoroanthracenyl) (2,3,5-trifluorophenyl) (perfluorophenyl)borate]⁻/dimethylsilyl (tetramethylcyclopentadienyl) (adamantyl-1-amino) titanium dimethyl; [tri-N-octylammonium]⁺[(4-{tri-(isopropyl)siloxy}-perfluorophenyl) (perfluoroanthracenyl) (2,3,5-trifluorophenyl) (perfluorophenyl)borate]⁻/dimethylsilyl (tetramethylcyclopentadienyl) (t-butylamino) titanium dimethyl; [tri-N-octylammonium]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl) (perfluoroanthracenyl) (2,3,5-trifluorophenyl) (perfluorophenyl)borate]⁻/dimethylsilyl bis(2-propyl-indenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl) (perfluorobiphenyl) (perfluorophenyl) (4,5,6-trifluoronaphthyl)borate]⁻/dimethylsilyl(tetramethylcyclopentadienyl) (t-butylamido) zirconium dimethyl; [tri-N-octylammonium]⁺[(4-{tri-(isopropyl)siloxy}-perfluorophenyl) (perfluorobiphenyl) (perfluorophenyl) (4,5,6-trifluoronaphthyl)borate]⁻/methylene (2,7-di-t-butyl fluorenyl) (fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl) (perfluorobiphenyl) (perfluorophenyl)

(pentafluoroanthracenyl)aluminate]⁻/ dimethylsilyl bis(phenylmethylindenyl) hafnium dimethyl;
 [tri-N-octylammonium]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl) (perfluoronaphthyl)
 (pentafluoropyrenyl) (perfluorophenyl)borate]⁻/ (4-n-butylphenyl) (4-t-
 butylphenyl)methylene(fluorenyl) (indenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(4-{tri-
 (isopropyl)siloxy}perfluorophenyl) (perfluorophenyl) (4,5,6-trifluoronaphthyl) (2,3,4-
 trifluorophenyl)borate]⁻/ diphenylmethylene(cyclopentadienyl) (2,7-di-t-butyl-fluorenyl)
 hafnium dimethyl; [tri-N-octylammonium]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl)
 (perfluorophenyl) (perfluorobiphenyl) (tetrafluorofluorenyl)aluminate]⁻/ pentamethyl
 cyclopentadienyl titanium isopropoxide; [tri-N-octylammonium]⁺[(4-{tri-(isopropyl)siloxy}-
 perfluorophenyl) (perfluorophenyl) (perfluorofluorenyl) (perfluorobiphenyl)borate]⁻/
 diphenylmethylene (cyclopentadienyl) (2,7-di-t-butyl fluorenyl) hafnium dimethyl; [tri-N-
 octylammonium]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl) (perfluoropyrenyl) (2',3',4'-
 trifluorobiphenyl) (2,3,5-trifluorophenyl)borate]⁻/ pentamethylcyclopentadienyl titanium
 trimethyl; [tri-N-octylammonium]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl)
 (tetrafluorofluorenyl) (4,5,6,7-tetrafluoronaphthyl) (2',3',5'-trifluorobiphenyl)borate]⁻/ methylene
 (2,7-di-t-butyl fluorenyl) (fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(4-{tri-
 (isopropyl)siloxy}perfluorophenyl)bis(pentafluoropyrenyl) (perfluorofluorenyl)borate]⁻/ (4-n-
 propylphenyl) (4-isopropylphenyl)methylene (fluorenyl) (cyclopentadienyl) hafnium dimethyl;
 [tri-N-octylammonium]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl)bis(perfluorobiphenyl)
 (pentafluoropyrenyl)borate]⁻/ di(4-n-butylphenyl)methylene (2,7-di-t-butyl fluorenyl) (indenyl)
 hafnium dimethyl; [tri-N-octylammonium]⁺[(4-{tri-(isopropyl)siloxy}-
 perfluorophenyl)bis(perfluorobiphenyl) (pentafluoropyrenyl)borate]⁻/ diphenylmethylene (2,7-
 di-t-butyl fluorenyl) (fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(4-{tri-
 (isopropyl)siloxy}perfluorophenyl)bis(perfluorobiphenyl) (perfluoroanthracenyl)borate]⁻/
 dimethylsilyl (bisindenyl) zirconium dichloride; [tri-N-octylammonium]⁺[(4-{tri-
 (isopropyl)siloxy}perfluorophenyl)bis(perfluorobiphenyl) (perfluoroanthracenyl)borate]⁻/
 diphenylmethylene(cyclopentadienyl) (2,7-methyl-fluorenyl) hafnium dimethyl; [tri-N-
 octylammonium]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl)bis(perfluorophenyl)
 (pentafluoropyrenyl)aluminate]⁻/ dimethylsilyl bis(phenylmethylindenyl) hafnium dimethyl;
 [tri-N-octylammonium]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl)bis(perfluorophenyl)
 (perfluoroanthracenyl)aluminate]⁻/ di(4-n-butylphenyl) methylene (fluorenyl) (indenyl) hafnium
 dimethyl; [tri-N-octylammonium]⁺[(4-{tri-(isopropyl)siloxy}-

perfluorophenyl)bis(perfluorophenyl) (perfluoroanthracenyl)aluminate]⁻/ diphenylmethylene
 (cyclopentadienyl) (2,7-di-t-butyl fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(5-
 {(methyl)diethylsilyloctyl} (triethylsilylmethyl)cyclohexylsiloxy}fluoronaph-3-yl)
 (perfluoropyrenyl) (perfluorophenyl) (4,5,6-trifluoronaphthyl)borate]⁻/ dimethylsilyl (indenyl)
 (fluorenyl) hafnium dihydride; [tri-N-octylammonium]⁺[(5-
 {(triethylsilylethyl)isopropylnonylsiloxy}perfluoronaph-2-yl) (perfluoropyrenyl)
 (perfluorobiphenyl) (5,6,7,8-tetrafluoronaphthyl)borate]⁻/ bis(4-
 (triethylsilyl)phenyl)methylene(cyclopentadienyl) (2,7-di-t-butyl-fluorenyl)hafnium dimethyl;
 [tri-N-octylammonium]⁺[(5-{(triethylsilyl)hexyl} (3-ethylnonyl)isopropylsiloxy}perfluoronaph-2-
 yl) (2',3',4'-trifluorobiphenyl) (perfluorobiphenyl) (perfluorophenyl)aluminate]⁻/ dimethylsilyl
 bis(indenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(5-{(tri-n-
 propylsilyl)hexyl)isopropyl(triethylsilylmethyl)siloxy}fluoronaph-3-yl) (perfluorofluorenyl)
 (perfluoroanthracenyl) (perfluoropyrenyl)borate]⁻/ (4-n-propylphenyl) (4-
 isopropylphenyl)silylenebis(fluorenyl) hafnium di-t-butyl; [tri-N-octylammonium]⁺[(5-{(tri-n-
 propylsilyl)hexyl)isopropyl(triethylsilylmethyl)siloxy}perfluoroinden-2-
 yl)bis(perfluoroanthracenyl) (perfluoropyrenyl)borate]⁻/ (4-n-propylphenyl) (4-
 isopropylphenyl)silylenebis(fluorenyl) hafnium di-t-butyl; [tri-N-octylammonium]⁺[(5-{di-((tri-n-
 propylsilyl)hexyl)) (triethylsilylethyl)siloxy}perfluoroinden-1-yl)tris(perfluorophenyl)aluminate]⁻/
 (4-n-propylphenyl) (4-isopropylphenyl)methylene (fluorenyl) (cyclopentadienyl) hafnium
 dimethyl; [tri-N-octylammonium]⁺[(5-{di-(isopropyl)benzylsiloxy}perfluoroinden-2-yl)
 (pentafluoroanthracenyl) (5,6,7,8-tetrafluoronaphthyl) (perfluorophenyl)borate]⁻/ di(4-n-
 butylphenyl)methylene (2,7-dimethyl fluorenyl) (cyclopentadienyl) hafnium dibenzyl; [tri-N-
 octylammonium]⁺[(5-{di-(isopropyl)benzylsiloxy}perfluoronaph-1-yl) (5,6,7,8-
 tetrafluoronaphthyl) (perfluorophenyl) (2',3',5'-trifluorobiphenyl)aluminate]⁻/
 diphenylmethylene (2,7-di-t-butyl fluorenyl) (fluorenyl) hafnium dimethyl; [tri-N-
 octylammonium]⁺[(5-{hexyl(tri-n-propylsilyl)hexyl)isopropylsiloxy}perfluoroinden-2-yl) (2',3',5'-
 trifluorobiphenyl) (2,3,5-trifluorophenyl) (perfluorobiphenyl)aluminate]⁻/ diphenylmethyl
 (fluorenyl) (cyclopentadienyl) zirconium dimethyl; [tri-N-octylammonium]⁺[(5-{isopropyl (3-
 ethylnonyl)isopropylsiloxy}perfluoroinden-2-yl)bis(perfluorobiphenyl) (perfluorophenyl)borate]⁻
 / (4-n-propylphenyl) (4-isopropylphenyl)silylenebis(fluorenyl) hafnium di-t-butyl; [tri-N-
 octylammonium]⁺[(5-{isopropyl (3-ethylnonyl)isopropylsiloxy}perfluoroinden-2-
 yl)bis(perfluorobiphenyl) (perfluorophenyl)borate]⁻/ dimethylsilyl bisindenyl hafnium dimethyl;
 [tri-N-octylammonium]⁺[(5-{isopropyl(t-butyl) (triethylsilylmethyl)siloxy}perfluoronaph-3-yl)

(perfluorophenyl) (tetrafluorofluorenyl) (perfluoropyrenyl)borate]⁻/ di(4-n-butylphenyl)methylene (2,7-di-t-butyl fluorenyl) (indenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(5-{isopropyl(triethylsilyl)ethyl} (trimethylsilyl)ethoxy)perfluoroinden-1-yl) (5,6,7,8-tetrafluoronaphthyl) (2',3',5'-trifluorobiphenyl) (4,5,6,7-tetrafluoronaphthyl)aluminate]⁻/ dimethylsilyl bis(naphthylmethylindenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(5-{isopropylcyclohexylisopropylsiloxy}perfluoronaph-1-yl)tris(perfluorophenyl)borate]⁻/ bis(4-triethylsilylphenyl)methylene(cyclopentadienyl) (2,7-di-t-butyl-fluorenyl)hafnium dimethyl; [tri-N-octylammonium]⁺[(5-{octyl(triethylsilyl)ethyl} (triethylsilylmethyl)siloxy)perfluoronaph-1-yl) (perfluorofluorenyl) (perfluoroanthracenyl) (perfluorobiphenyl)borate]⁻/ dimethylsilyl (bisindenyl) zirconium dichloride; [tri-N-octylammonium]⁺[(5-{octyl(triethylsilyl)ethyl} (triethylsilylmethyl)siloxy)perfluoronaph-1-yl) (perfluorofluorenyl) (perfluoroanthracenyl) (perfluorobiphenyl)borate]⁻/ diphenylmethylene (2,7-di-t-butyl-5-methylfluorenyl) (cyclopentadienyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(5-{octylisopropylsiloxy}perfluoronaph-2-yl) (5,6,7,8-tetrafluoronaphthyl) (4,5,7-trifluoronaphthyl) (perfluorofluorenyl)aluminate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene(2,7-dimethylfluorenyl) (indenyl) hafnium dibenzyl; [tri-N-octylammonium]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaph-3-yl) (pentafluoroanthracenyl) (tetrafluorofluorenyl) (perfluorobiphenyl)borate]⁻/ dimethylsilyl bis(2-propyl-indenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(5-{tri-(isopropyl)siloxy}perfluoroinden-1-yl) (perfluorophenyl) (4,5,6-trifluoronaphthyl) (tetrafluorofluorenyl)aluminate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene(fluorenyl) (indenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(5-{tri-(isopropyl)siloxy}perfluoroinden-1-yl) (perfluorophenyl) (tetrafluorofluorenyl) (perfluoropyrenyl)borate]⁻/ diphenylmethylene (2,7-di-t-butyl-5-methylfluorenyl) (cyclopentadienyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(5-{tri-(isopropyl)siloxy}perfluoroinden-1-yl)bis(tetrafluorofluorenyl) (4,5,6-trifluoronaphthyl)borate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene(2,7-dimethylfluorenyl) (indenyl) hafnium dibenzyl; [tri-N-octylammonium]⁺[(5-{tri-(isopropyl)siloxy}perfluoroinden-2-yl) (pentafluoropyrenyl) (2,3,5-trifluorophenyl) (perfluorobiphenyl)borate]⁻/ dimethylsilyl (bisindenyl) zirconium dichloride; [tri-N-octylammonium]⁺[(5-{tri-(isopropyl)siloxy}perfluoroinden-2-yl) (perfluorophenyl) (2,3,5-trifluorophenyl) (perfluorofluorenyl)borate]⁻/ (4-alkylphenyl) (4-t-butylphenyl)methylene(cyclopentadienyl) (fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaphth-1-yl) (perfluorophenyl) (perfluorobiphenyl) (4,5,6,7-tetrafluoronaphthyl)borate]⁻/ bis(trimethylsilyl) titanium dimethyl;

[tri-N-octylammonium]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaphth-1-yl)tris(perfluorophenyl)borate]⁻/ silacyclobutyl(tetramethylcyclopentadienyl) (n-propylcyclopentadienyl) zirconium dimethyl; [tri-N-octylammonium]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaphth-1-yl) (5,6,7,8-tetrafluoronaphthyl) (perfluorophenyl) (perfluorobiphenyl)aluminate]⁻/ (4-n-propylphenyl) (4-isopropylphenyl)silylenebis(fluorenyl) hafnium di-t-butyl; [tri-N-octylammonium]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaphth-1-yl) (perfluorobiphenyl) (4,5,7-trifluoronaphthyl) (pentafluoropyrenyl)borate]⁻/ dimethylsilyl (tetramethylcyclopentadienyl) (adamantyl-1-amino) titanium dimethyl; [tri-N-octylammonium]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaphth-1-yl) (perfluoropyrenyl) (perfluorophenyl) (2',3',5'-trifluorobiphenyl)borate]⁻/ (tetramethyl-cyclopentadienyl) (n-propylcyclopentadienyl) zirconium dimethyl; [tri-N-octylammonium]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaphth-1-yl)bis(perfluorophenyl) (4,5,6,7-tetrafluoronaphthyl)aluminate]⁻/ dimethylsilyl(tetramethylcyclopentadienyl) (dodecylamido) hafnium dihydride; [tri-N-octylammonium]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaphth-1-yl)bis(perfluorophenyl) (4,5,6,7-tetrafluoronaphthyl)aluminate]⁻/ methylene bis(fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaphth-1-yl)bis(perfluorophenyl) (4,5,6,7-tetrafluoronaphthyl)aluminate]⁻/ pentamethyl cyclopentadienyl tribenzyl titanium; [tri-N-octylammonium]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaphth-1-yl)bis(perfluorophenyl) (5,6,7,8-tetrafluoronaphthyl)borate]⁻/ (4-n-propylphenyl) (4-isopropylphenyl)methylene (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaphth-1-yl)tris(tetrafluorofluorenyl)borate]⁻/ dimethylsilyl(tetramethylcyclopentadienyl) (adamantylamido) titanium dichloride; [tri-N-octylammonium]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaphth-2-yl) (perfluorobiphenyl) (perfluorofluorenyl) (2,3,4-trifluorophenyl)borate]⁻/ dinaphthylmethylene (cyclopentadienyl) (fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaphth-2-yl) (perfluorobiphenyl) (perfluoropyrenyl) (perfluoronaphthyl)aluminate]⁻/ di(4-n-butylphenyl)methylene (2,7-dimethyl fluorenyl) (cyclopentadienyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaphth-2-yl) (perfluorophenyl) (perfluorobiphenyl) (4,5,7-trifluoronaphthyl)borate]⁻/ pentamethyl cyclopentadienyl titanium isopropoxide; [tri-N-octylammonium]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaphth-3-yl) (perfluorophenyl) (2,3,5-trifluorophenyl) (4,5,6-trifluoronaphthyl)borate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene(fluorenyl) (indenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(5-

{tri-(isopropyl)siloxy}perfluoronaphth-3-yl)tris(perfluorophenyl)borate]⁻/ dimethylsilyl
 bis(methylindenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(6-{ (3-ethylnonyl)
 (methyldiethylsilyloctyl)isopropylsiloxy}fluoroanthracen-2-yl) (perfluorobiphenyl) (2,3,5-
 trifluorophenyl) (2',3',4'-trifluorobiphenyl)aluminate]⁻/ diphenylmethylene (cyclopentadienyl)
 (2,7-di-t-butyl fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(6-{ (3-
 ethylnonyl)benzylisopropylsiloxy}fluoronaphth-3-yl)bis(perfluorofluorenyl) (2',3',5'-
 trifluorobiphenyl)borate]⁻/ diphenylmethyl (cyclopentadienyl) (fluorenyl) hafnium dimethyl;
 [tri-N-octylammonium]⁺[(6-{(triethylsilylpropyl) (triethylsilylethyl)isopropylsiloxy}-
 perfluoronaphth-1-yl) (4,5,6-trifluoronaphthyl) (2,3,4-trifluorophenyl) (perfluorobiphenyl)borate]⁻
 / (4-n-butylphenyl) (4-t-butylphenyl)methylene (2,7-di-t-butyl-fluorenyl) (cyclopentadienyl)
 hafnium dimethyl; [tri-N-octylammonium]⁺[(6-{(triethylsilylpropyl)benzylisopropylsiloxy}-
 fluorofluoren-1-yl) (2,3,6-trifluorophenyl) (pentafluoroanthracenyl) (2,3,4-
 trifluorophenyl)borate]⁻/ di(4-n-butylphenyl)methylene (2,7-dimethyl fluorenyl)
 (cyclopentadienyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(6-{(2,2-dimethyloctyl)isopropyl
 (3-ethylnonyl)siloxy}perfluoroanthracen-1-yl) (4,5,6,7-tetrafluoronaphthyl) (5,6,7,8-
 tetrafluoronaphthyl) (perfluorobiphenyl)aluminate]⁻/ dimethylsilyl-bisindenyl hafnium dimethyl;
 [tri-N-octylammonium]⁺[(6-{(methyldiethylsilyloctyl)nonyl(triethylsilylpropyl)siloxy}-
 perfluoronaphth-1-yl) (perfluorophenyl) (perfluorofluorenyl) (perfluoropyrenyl)borate]⁻/
 methylene (2,7-di-t-butyl fluorenyl) (fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(6-
 {(tri-(isopropyl)silyloctyl) (3-ethylnonyl) (2,2-dimethyloctyl)siloxy}perfluoronaphth-3-
 yl)bis(perfluorophenyl) (5,6,7,8-tetrafluoronaphthyl)borate]⁻/ (4-n-propylphenyl) (4-
 isopropylphenyl)silylenebis(fluorenyl) hafnium di-t-butyl; [tri-N-octylammonium]⁺[(6-{(tri-
 (isopropyl)silyloctyl) (3-ethylnonyl) (2,2-dimethyloctyl)siloxy}perfluoronaphth-1-yl)
 (perfluorophenyl) (perfluorobiphenyl) (5,6,7,8-tetrafluoronaphthyl)borate]⁻/
 dinaphthylmethylene (cyclopentadienyl) (fluorenyl) hafnium dimethyl; [tri-N-
 octylammonium]⁺[(6-{(tri-(isopropyl)silyloctyl)isopropyl (3-ethylnonyl)siloxy}fluoronaphth-1-yl)
 (5,6,7,8-tetrafluoronaphthyl) (2',3',4'-trifluorobiphenyl) (perfluoropyrenyl)aluminate]⁻/
 diphenylmethylene (cyclopentadienyl) (2,7-di-t-butyl fluorenyl) hafnium dimethyl; [tri-N-
 octylammonium]⁺[(6-{(triethylsilylethyl) (2,2-dimethyloctyl)isopropylsiloxy}perfluorofluoren-1-yl)
 (2,3,5-trifluorophenyl) (2',3',5'-trifluorobiphenyl) (perfluorobiphenyl)borate]⁻/ (4-n-butylphenyl)
 (4-t-butylphenyl)methylene (2,7-di-t-butyl-fluorenyl) (cyclopentadienyl) hafnium dimethyl; [tri-
 N-octylammonium]⁺[(6-{(triethylsilylethyl) (2,2-dimethyloctyl)isopropylsiloxy}perfluorofluoren-1-
 yl) (2,3,5-trifluorophenyl) (2',3',5'-trifluorobiphenyl) (perfluorobiphenyl)borate]⁻/

diphenylmethyle (2,7-di-t-butyl fluorenyl) (fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(6-((triethylsilylethyl)isopropyl(tri-n-propylsilylhexyl)siloxy)perfluorofluoren-1-yl) (2,3,5-trifluorophenyl) (perfluorobiphenyl) (perfluoroanthracenyl)aluminate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene(2,7-dimethyl-fluorenyl) (indenyl) hafnium dibenzyl; [tri-N-octylammonium]⁺[(6-((triethylsilylethyl)isopropyl(tri-n-propylsilylhexyl)siloxy)-perfluorofluoren-1-yl) (2,3,5-trifluorophenyl) (perfluorobiphenyl) (perfluoroanthracenyl)aluminate]⁻/ isopropyl (cyclopentadienyl) (fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(6-((triethylsilylethyl)isopropylbenzylsiloxy)perfluorofluoren-2-yl) (4,5,6,7-tetrafluoronaphthyl) (2',3',5'-trifluorobiphenyl) (perfluorophenyl)aluminate]⁻/ bis(4-(triethylsilyl)phenyl)methylene(cyclopentadienyl) (fluorenyl)hafnium dimethyl; [tri-N-octylammonium]⁺[(6-((triethylsilylhexyl)isopropylcyclohexylsiloxy)perfluoroanthracen-2-yl)bis(perfluoroanthracenyl) (pentafluoropyrenylborate)⁻/ diphenylmethyl (fluorenyl) (cyclopentadienyl) zirconium dimethyl; [tri-N-octylammonium]⁺[(6-((triethylsilylmethyl)isopropylbenzylsiloxy)perfluorofluoren-1-yl) (pentafluoropyrenyl) (perfluoropyrenyl) (perfluoroanthracenyl)borate]⁻/ dimethylsilyl (indenyl) (fluorenyl) hafnium dihydride; [tri-N-octylammonium]⁺[(6-((tri-n-propylsilylhexyl)isopropyl(tri-(isopropyl)silyloctyl)siloxy)perfluoroanthracen-2-yl) (perfluorobiphenyl) (tetrafluorofluorenyl) (perfluorophenyl)borate]⁻/ di(4-n-butylphenyl)methylene (2,7-di-t-butyl fluorenyl) (cyclopentadienyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(6-{di-(3-ethylnonyl)isopropylsiloxy}perfluoroanthracen-2-yl)bis(2',3',4'-trifluorobiphenyl) (tetrafluorofluorenyl)borate]⁻/ methylphenylmethylene bis(fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(6-{di-((tri-(isopropyl)silyloctyl)) (methyldiethylsilyloctyl)siloxy)-perfluoroinden-2-yl) (perfluorophenyl) (4,5,6-trifluoronaphthyl) (perfluorobiphenyl)aluminate]⁻/ dimethylsilyl bis(2-methyl-4-naphth-2-yl-indenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(6-{di-((triethylsilylmethyl)isopropylsiloxy}fluoroinden-2-yl)tris(perfluorobiphenyl)aluminate]⁻/ isopropyl (cyclopentadienyl) (fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(6-{di-(isopropyl) (3-ethylnonyl)siloxy}perfluoroanthracen-1-yl) (5,6,7,8-tetrafluoronaphthyl) (perfluorofluorenyl) (2',3',4'-trifluorobiphenyl)borate]⁻/ diphenylmethyl (fluorenyl) (cyclopentadienyl) zirconium dimethyl; [tri-N-octylammonium]⁺[(6-{ethyl(2,2-dimethyloctyl)hexylsiloxy}perfluoronaphth-3-yl) (2,3,4-trifluorophenyl) (perfluorophenyl) (perfluoropyrenyl)borate]⁻/ dimethylsilyl(tetramethylcyclopentadienyl) (dodecylamido) hafnium dihydride; [tri-N-octylammonium]⁺[(6-{hexylisopropyl(t-butyl)siloxy}-perfluoroanthracen-2-yl) (2',3',5'-trifluorobiphenyl) (perfluorobiphenyl) (2,3,5-

trifluorophenyl)aluminate]⁻/ pentamethyl cyclopentadienyl tribenzyl titanium; [tri-N-octylammonium]⁺[(6-{isopropyl(2,2-dimethyloctyl) (methyldiethylsilyloctyl)siloxy}-perfluoronaphth-1-yl)bis(perfluorophenyl) (perfluorobiphenylborate)⁻/ methylphenylmethylene bis(fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(6-{isopropyl(2,2-dimethyloctyl)isopropylsiloxy}perfluorofluoren-1-yl) (perfluorobiphenyl) (pentafluoroanthracenyl) (perfluoropyrenyl)borate]⁻/ di(4-n-butylphenyl)methylene (2,7-dimethyl fluorenyl) (cyclopentadienyl) hafnium dibenzyl; [tri-N-octylammonium]⁺[(6-{isopropyl(tri-(isopropyl)silyloctyl) (3-ethylnonyl)siloxy}perfluorofluoren-1-yl) (perfluorophenyl) (perfluorobiphenyl) (pentafluoroanthracenyl)aluminate]⁻/ dimethylsilyl bis(indenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(6-{isopropyl(tri-(isopropyl)silyloctyl) (3-ethylnonyl)siloxy}-perfluorofluoren-1-yl) (perfluorophenyl) (perfluorobiphenyl) (pentafluoroanthracenyl)aluminate]⁻/ isopropyl (cyclopentadienyl) (fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(6-{isopropyl(tri-(isopropyl)silyloctyl)benzylsiloxy}-perfluoroanthracen-2-yl) (perfluorofluorenyl) (perfluorophenyl) (2,3,6-trifluorophenyl)aluminate]⁻/ pentamethylcyclopentadienyl titanium trimethyl; [tri-N-octylammonium]⁺[(6-{isopropyl(triethylsilylethyl) (triethylsilylhexyl)siloxy}perfluorofluoren-1-yl)bis(perfluorophenyl) (2,3,5-trifluorophenylborate)⁻/ dimethylsilyl (tetramethylcyclopentadienyl) (t-butylamino) titanium dimethyl; [tri-N-octylammonium]⁺[(6-{isopropyl(triethylsilylethyl) (triethylsilylhexyl)siloxy}perfluorofluoren-1-yl)bis(perfluorophenyl) (2,3,5-trifluorophenylborate)⁻/ methylene bis(fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(6-{isopropyl(triethylsilylhexyl) (triethylsilylmethyl)siloxy}perfluoroanthracen-1-yl) (perfluorophenyl) (perfluoronaphthyl) (4,5,7-trifluoronaphthyl)borate]⁻/ dinaphthylmethylene (cyclopentadienyl) (fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(6-{methyl(triethylsilylethyl)isopropylsiloxy}perfluoronaphth-3-yl) (pentafluoropyrenyl) (perfluorophenyl) (perfluoroanthracenyl)aluminate]⁻/ dimethylsilylbis(2-methylbenzindenyl) zirconium dimethyl; [tri-N-octylammonium]⁺[(6-{methyl(triethylsilylethyl)isopropylsiloxy}perfluoronaphth-3-yl) (pentafluoropyrenyl) (perfluorophenyl) (perfluoroanthracenyl)aluminate]⁻/ diphenylmethyl (cyclopentadienyl) (2,7-di-t-butyl-fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(6-{octyl(triethylsilylethyl) (triethylsilylmethyl)siloxy}perfluoronaphth-2-yl) (2',3',5'-trifluorobiphenyl) (pentafluoropyrenyl) (perfluorofluorenyl)aluminate]⁻/ (4-n-propylphenyl) (4-isopropylphenyl)methylene (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(6-{octyl(trimethylsilylethyl) (methyldiethylsilyloctyl)siloxy}perfluorofluoren-2-yl) (perfluoronaphthyl) (4,5,6-

trifluoronaphthyl) (perfluoropyrenyl)aluminate]⁻/ diphenylmethylene (cyclopentadienyl) (2,7-di-
t-butyl fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(6-{tri-(isopropyl)siloxy}-
fluorofluoren-1-yl) (pentafluoroanthracenyl) (perfluorophenyl) (perfluoroanthracenyl)borate]⁻/
dibutylsilyl (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(6-{tri-
(isopropyl)siloxy}fluoroinden-2-yl) (perfluoropyrenyl) (perfluoroanthracenyl)
(perfluorophenyl)borate]⁻/ bis(4-(triethylsilyl)phenyl)methylene(cyclopentadienyl)
(fluorenyl)hafnium dimethyl; [tri-N-octylammonium]⁺[(6-{tri-(isopropyl)siloxy}fluoronaph-3-yl)
(perfluorophenyl) (4,5,6-trifluoronaphthyl) (2,3,6-trifluorophenyl)aluminate]⁻/ isopropyl
(cyclopentadienyl) (fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(6-{tri-
(isopropyl)siloxy}perfluoroanthracen-1-yl) (4,5,6,7-tetrafluoronaphthyl) (5,6,7,8-
tetrafluoronaphthyl) (perfluoroanthracenyl)aluminate]⁻/ (4-n-propylphenyl) (4-
methylphenyl)methylene(fluorenyl) (indenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(6-
{tri-(isopropyl)siloxy}perfluoroanthracen-1-yl)bis(perfluorobiphenyl)
(perfluoropyrenylaluminate)⁻/ dimethylsilyl bis(2-methyl-4-naphth-2-yl-indenyl) hafnium
dimethyl; [tri-N-octylammonium]⁺[(6-{tri-(isopropyl)siloxy}perfluoroanthracen-1-
yl)bis(perfluorobiphenyl) (perfluoropyrenylaluminate)⁻/
dimethylsilyl(tetramethylcyclopentadienyl) (dodecylamido) hafnium dimethyl; [tri-N-
octylammonium]⁺[(6-{tri-(isopropyl)siloxy}perfluoroanthracen-2-yl) (perfluorophenyl)
(perfluorobiphenyl) (perfluorofluorenyl)borate]⁻/ dimethylsilyl bis(2-propyl-indenyl) hafnium
dimethyl; [tri-N-octylammonium]⁺[(6-{tri-(isopropyl)siloxy}perfluoroanthracen-2-yl)
(perfluorophenyl) (perfluorobiphenyl) (perfluoronaphthyl)borate]⁻/ (4-n-butylphenyl) (4-t-
butylphenyl)methylene (2,7-di-t-butyl-fluorenyl) (cyclopentadienyl) hafnium dimethyl; [tri-N-
octylammonium]⁺[(6-{tri-(isopropyl)siloxy}perfluoroanthracen-2-yl)bis(perfluorophenyl)
(4,5,6,7-tetrafluoronaphthylaluminate)⁻/ di(4-n-butylphenyl)methylene (2,7-di-t-butyl fluorenyl)
(cyclopentadienyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(6-{tri-(isopropyl)siloxy}-
perfluorofluoren-1-yl) (2',3',5'-trifluorobiphenyl) (4,5,6-trifluoronaphthyl)
(perfluorophenyl)borate]⁻/ pentamethyl cyclopentadienyl tribenzyl titanium; [tri-N-
octylammonium]⁺[(6-{tri-(isopropyl)siloxy}perfluorofluoren-2-yl) (4,5,6-trifluoronaphthyl)
(perfluoroanthracenyl) (perfluorophenyl)borate]⁻/ di(4-n-butylphenyl)methylene (2,7-dimethyl
fluorenyl) (cyclopentadienyl) hafnium dibenzyl; [tri-N-octylammonium]⁺[(6-{tri-
(isopropyl)siloxy}perfluorofluoren-2-yl) (perfluorophenyl) (tetrafluorofluorenyl)
(pentafluoroanthracenyl)borate]⁻/ dimethylsilyl-bisindenyl hafnium dimethyl; [tri-N-
octylammonium]⁺[(6-{tri-(isopropyl)siloxy}perfluorofluoren-2-yl) (perfluorophenyl)

(tetrafluorofluorenyl) (pentafluoroanthracenyl)borate]⁻/ diphenylmethane (2,7-di-*t*-butyl fluorenyl) (fluorenyl) hafnium dimethyl; [tri-*N*-octylammonium]⁺[(6-{tri-(isopropyl)siloxy}-perfluorofluoren-2-yl) (perfluoropyrenyl) (4,5,7-trifluoronaphthyl) (tetrafluorofluorenyl)borate]⁻/ bis(4-(triethylsilyl)phenyl)methylene(cyclopentadienyl) (fluorenyl)hafnium dimethyl; [tri-*N*-octylammonium]⁺[(6-{tri-(isopropyl)siloxy}perfluorofluoren-2-yl) (perfluoropyrenyl) (4,5,7-trifluoronaphthyl) (tetrafluorofluorenyl)borate]⁻/ di(4-*n*-propylphenyl)methylene (2,7-di-*t*-butyl-5-methylfluorenyl) (fluorenyl) hafnium dimethyl; [tri-*N*-octylammonium]⁺[(6-{tri-(isopropyl)siloxy}perfluorofluoren-2-yl)bis(perfluorobiphenyl) (perfluorophenyl)borate]⁻/ dimethylsilyl (indenyl) (fluorenyl) hafnium dihydride; [tri-*N*-octylammonium]⁺[(6-{tri-(isopropyl)siloxy}perfluoroinden-2-yl) (2,3,5-trifluorophenyl) (2,3,6-trifluorophenyl) (perfluorophenyl)borate]⁻/ (pentamethylcyclopentadienyl) (cyclopentadienyl)zirconium dimethyl; [tri-*N*-octylammonium]⁺[(6-{tri-(isopropyl)siloxy}perfluoroinden-2-yl) (2,3,5-trifluorophenyl) (perfluorobiphenyl) (perfluoropyrenyl)borate]⁻/ diphenylmethane (2,7-di-*n*-butyl fluorenyl) (cyclopentadienyl) hafnium dimethyl; [tri-*N*-octylammonium]⁺[(6-{tri-(isopropyl)siloxy}perfluoroinden-2-yl) (5,6,7,8-tetrafluoronaphthyl) (perfluorophenyl) (perfluorobiphenyl)borate]⁻/ dimethylsilyl bis(phenylmethylindenyl) hafnium dimethyl; [tri-*N*-octylammonium]⁺[(6-{tri-(isopropyl)siloxy}perfluoroinden-2-yl) (perfluorofluorenyl) (perfluoroanthracenyl) (perfluorophenyl)aluminate]⁻/ (4-alkylphenyl) (4-*t*-butylphenyl)methylene(cyclopentadienyl) (fluorenyl) hafnium dimethyl; [tri-*N*-octylammonium]⁺[(6-{tri-(isopropyl)siloxy}perfluoroinden-2-yl) (perfluorofluorenyl) (perfluoroanthracenyl) (perfluorophenyl)aluminate]⁻/ dimethylsilyl bis(2-methyl-4-phenylindenyl) hafnium dimethyl; [tri-*N*-octylammonium]⁺[(6-{tri-(isopropyl)siloxy}perfluoroinden-2-yl) (perfluorofluorenyl) (perfluoroanthracenyl) (perfluorophenyl)aluminate]⁻/ dimethylsilyl bis(2-propylindenyl) hafnium dimethyl; [tri-*N*-octylammonium]⁺[(6-{tri-(isopropyl)siloxy}-perfluoronaphth-2-yl)bis(perfluorofluorenyl) (perfluoropyrenyl)aluminate]⁻/ dimethylsilyl bis(methylindenyl) hafnium dimethyl; [tri-*N*-octylammonium]⁺[(6-{tri-(isopropyl)siloxy}-perfluoronaphth-2-yl)bis(perfluorofluorenyl) (perfluoropyrenyl)aluminate]⁻/ diphenylmethane (2,7-di-*t*-butyl-5-methylfluorenyl) (cyclopentadienyl) hafnium dimethyl; [tri-*N*-octylammonium]⁺[(6-{tri-(isopropyl)siloxy}perfluoronaphth-2-yl)bis(perfluorofluorenyl) (perfluoropyrenyl)aluminate]⁻/ diphenylmethane (indenyl) (2,7-di-*t*-butyl fluorenyl) hafnium dibenzyl; [tri-*N*-octylammonium]⁺[(6-{tri-(isopropyl)siloxy}perfluoronaphth-2-yl)bis(perfluorophenyl) (pentafluoropyrenyl)borate]⁻/ dimethylsilyl

(tetramethylcyclopentadienyl) (adamantyl-1-amino) titanium dimethyl; [tri-N-octylammonium]⁺[(6-{tri-(isopropyl)siloxy}perfluoronaphth-2-yl)bis(perfluorophenyl) (pentafluoropyrenyl)borate]⁻/ dimethylsilyl(tetramethylcyclopentadienyl) (t-butylamido) zirconium dimethyl; [tri-N-octylammonium]⁺[(6-{tri-(isopropyl)siloxy}perfluoronaphth-2-yl)bis(perfluorophenyl) (pentafluoropyrenyl)borate]⁻/ methylene (indenyl) (2,7-di-t-butylfluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(6-{tri-(isopropyl)siloxy}perfluoronaphth-3-yl)bis(2',3',4'-trifluorobiphenyl) (4,5,7-trifluoronaphthylborate)⁻/ (4-n-propylphenyl) (4-methylphenyl)methylene(fluorenyl) (indenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(6-{tri-(isopropyl)siloxy}perfluoronaphth-3-yl)bis(2',3',4'-trifluorobiphenyl) (4,5,7-trifluoronaphthylborate)⁻/ dimethylsilylbis(2-methylbenzindenyl) zirconium dimethyl; [tri-N-octylammonium]⁺[(6-{tri-(isopropyl)siloxy}perfluoronaphth-1-yl) (perfluorophenyl) (perfluoropyrenyl) (perfluorobiphenyl)aluminate]⁻/ methylene (2,7-di-t-butyl fluorenyl) (fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(6-{tri-(isopropyl)siloxy}perfluoronaphth-1-yl) (perfluorophenyl) (perfluoropyrenyl) (perfluorobiphenyl)aluminate]⁻/ silacyclobutyl(tetramethylcyclopentadienyl) (n-propylcyclopentadienyl) zirconium dimethyl; [tri-N-octylammonium]⁺[(6-{tri-(isopropyl)siloxy}perfluoronaphth-1-yl)bis(perfluorophenyl) (perfluorofluorenylborate)⁻/ dinaphthylmethylene (cyclopentadienyl) (fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(6-{tri-(isopropyl)siloxy}perfluoronaphth-3-yl) (pentafluoropyrenyl) (perfluorophenyl) (2,3,6-trifluorophenyl)borate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene(fluorenyl) (indenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(6-{tri-(isopropyl)siloxy}perfluoronaphth-3-yl) (pentafluoropyrenyl) (perfluorophenyl) (2,3,6-trifluorophenyl)borate]⁻/ di(4-n-butylphenyl) methylene (fluorenyl) (indenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(6-{tri-(isopropyl)siloxy}perfluoronaphth-3-yl) (perfluoroanthracenyl) (perfluorophenyl) (pentafluoropyrenyl)borate]⁻/ dimethylsilyl (tetramethylcyclopentadienyl) (adamantyl-1-amino) titanium dimethyl; [tri-N-octylammonium]⁺[(6-{tri-(isopropyl)siloxy}perfluoronaphth-3-yl) (perfluoroanthracenyl) (perfluorophenyl) (pentafluoropyrenyl)borate]⁻/ diphenylmethylene(cyclopentadienyl) (2,7-methyl-fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(6-{tri-(isopropyl)siloxy}perfluoronaphth-3-yl) (perfluorophenyl) (pentafluoropyrenyl) (2',3',5'-trifluorobiphenyl)borate]⁻/ bis(1,3-dibutyl-methylcyclopentadienyl) zirconium dimethyl; [tri-N-octylammonium]⁺[(7-{(3-ethylnonyl)isopropyl(triethylsilyl)ethoxy}perfluorofluorene-2-yl)bis(2,3,6-trifluorophenyl) (4,5,6,7-tetrafluoronaphthyl)borate]⁻/ (4-n-propylphenyl) (4-

isopropylphenyl)silylenebis(fluorenyl) hafnium di-*t*-butyl; [tri-*N*-octylammonium]⁺[(7-{(3-ethylnonyl)isopropylcyclohexylsiloxy}perfluoroanthracen-1-yl) (perfluoronaphthyl) (perfluorobiphenyl) (2,3,4-trifluorophenyl)borate]⁻/ methylene bis(fluorenyl) hafnium dimethyl; [tri-*N*-octylammonium]⁺[(7-{(triethylsilylpropyl) (triethylsilylethyl)isopropylsiloxy}-perfluoropyren-1-yl)bis(perfluorofluorenyl) (perfluorobiphenyl)borate]⁻/ diphenylmethane (2,7-di-*n*-butyl fluorenyl) (cyclopentadienyl) hafnium dimethyl; [tri-*N*-octylammonium]⁺[(7-{(triethylsilylpropyl)isopropyl(tri-*n*-propylsilylhexyl)siloxy}perfluorofluoren-1-yl)bis(perfluorophenyl) (4,5,6-trifluoronaphthyl)aluminate]⁻/ dimethylsilyl bis(2-methyl-4-naphth-2-yl-indenyl) hafnium dimethyl; [tri-*N*-octylammonium]⁺[(7-{(methyldiethylsilyloctyl)isopropylhexylsiloxy}perfluorofluoren-1-yl) (tetrafluorofluorenyl) (perfluorophenyl) (4,5,6-trifluoronaphthyl)borate]⁻/ pentamethylcyclopentadienyl titanium trimethyl; [tri-*N*-octylammonium]⁺[(7-{(tri-(isopropyl)silyloctyl) (tri-*n*-propylsilylhexyl)isopropylsiloxy}perfluoropyren-2-yl) (perfluorobiphenyl) (perfluoronaphthyl) (2,3,4-trifluorophenyl)borate]⁻/ silacyclobutyl(tetramethylcyclopentadienyl) (*n*-propylcyclopentadienyl) zirconium dimethyl; [tri-*N*-octylammonium]⁺[(7-{(triethylsilylethyl) (methyldiethylsilyloctyl)isopropylsiloxy}fluoroanthracen-1-yl)bis(perfluorophenyl) (2,3,4-trifluorophenyl)borate]⁻/ pentamethylcyclopentadienyl titanium trimethyl; [tri-*N*-octylammonium]⁺[(7-{(triethylsilylhexyl)isopropyl(*t*-butyl)siloxy}fluorofluoren-1-yl) (perfluoroanthracenyl) (perfluorophenyl) (perfluoropyrenyl)aluminate]⁻/ dimethylsilyl (tetramethylcyclopentadienyl) (*t*-butylamino) titanium dimethyl; [tri-*N*-octylammonium]⁺[(7-{(triethylsilylhexyl)isopropyl(*t*-butyl)siloxy}perfluorofluoren-1-yl) (perfluorophenyl) (pentafluoropyrenyl) (4,5,6-trifluoronaphthyl)borate]⁻/ pentamethylcyclopentadienyl titanium trimethyl; [tri-*N*-octylammonium]⁺[(7-{benzylisopropyl(triethylsilylpropyl)siloxy}-perfluoronaph-2-yl) (perfluoroanthracenyl) (perfluorophenyl) (2,3,5-trifluorophenyl)borate]⁻/ (4-alkylphenyl) (4-*t*-butylphenyl)methylene(cyclopentadienyl) (fluorenyl) hafnium dimethyl; [tri-*N*-octylammonium]⁺[(7-{benzylisopropyl(triethylsilylpropyl)siloxy}perfluoronaph-2-yl) (perfluoroanthracenyl) (perfluorophenyl) (2,3,5-trifluorophenyl)borate]⁻/ di(4-*n*-butylphenyl)methylene (2,7-dimethyl fluorenyl) (cyclopentadienyl) hafnium dibenzyl; [tri-*N*-octylammonium]⁺[(7-{di-((triethylsilylhexyl)isopropylsiloxy}perfluoropyren-2-yl)bis(perfluorobiphenyl) (perfluorophenyl)borate]⁻/ (4-*n*-butylphenyl) (4-*t*-butylphenyl)methylene(2,7-dimethyl-fluorenyl) (indenyl) hafnium dibenzyl; [tri-*N*-octylammonium]⁺[(7-{di-((triethylsilylhexyl)isopropylsiloxy}perfluoropyren-2-yl)bis(perfluorobiphenyl) (perfluorophenyl)borate]⁻/ methylphenylmethane bis(fluorenyl)

hafnium dimethyl; [tri-N-octylammonium]⁺[(7-{di-(cyclohexyl) (tri-(isopropyl)silyloctyl)siloxy}-fluoronaphth-3-yl)bis(perfluorobiphenyl) (perfluoroanthracenyl)borate]⁻/ di(4-n-butylphenyl) methylene (fluorenyl) (indenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(7-{di-(isopropyl)cyclohexylsiloxy}fluoroanthracen-1-yl) (4,5,7-trifluoronaphthyl) (perfluorophenyl) (perfluorofluorenyl)borate]⁻/ dimethylsilyl bis(2-methyl-indenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(7-{di-(isopropyl)cyclohexylsiloxy}fluoroanthracen-1-yl) (4,5,7-trifluoronaphthyl) (perfluorophenyl) (perfluorofluorenyl)borate]⁻/ diphenylmethyl (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(7-{di-(isopropyl)n-propylsiloxy}perfluoroinden-2-yl)bis(perfluorophenyl) (perfluorobiphenyl)borate]⁻/ dimethylsilyl(tetramethylcyclopentadienyl) (t-butylamido) zirconium dimethyl; [tri-N-octylammonium]⁺[(7-{hexyl(2,2-dimethyloctyl)isopropylsiloxy}perfluoropyren-2-yl) (perfluoropyrenyl) (2,3,4-trifluorophenyl) (perfluoronaphthyl)borate]⁻/ bis(4-triethylsilylphenyl)methylene(cyclopentadienyl) (2,7-di-t-butyl-fluorenyl)hafnium dimethyl; [tri-N-octylammonium]⁺[(7-{hexyl(2,2-dimethyloctyl)isopropylsiloxy}perfluoropyren-2-yl) (perfluoropyrenyl) (2,3,4-trifluorophenyl) (perfluoronaphthyl)borate]⁻/ dimethylsilyl (tetramethylcyclopentadienyl) (t-butylamino) titanium dimethyl; [tri-N-octylammonium]⁺[(7-{hexylisopropyl(tri-(isopropyl)silyloctyl)siloxy}fluoropyren-1-yl) (perfluoronaphthyl) (perfluorophenyl) (perfluorobiphenyl)borate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene(fluorenyl) (indenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(7-{isopropyl(triethylsilylpropyl) (3-ethylnonyl)siloxy}perfluoronaphth-1-yl)(tetrafluorofluorenyl) (2',3',4'-trifluorobiphenyl) (perfluorobiphenyl)borate]⁻/ bis(1,3-dibutyl-methyl-cyclopentadienyl) zirconium dimethyl; [tri-N-octylammonium]⁺[(7-{isopropyl(triethylsilylpropyl) (3-ethylnonyl)siloxy}perfluoronaphth-1-yl) (tetrafluorofluorenyl) (2',3',4'-trifluorobiphenyl) (perfluorobiphenyl)borate]⁻/ dimethylsilyl (tetramethylcyclopentadienyl) (adamantyl-1-amino) titanium dimethyl; [tri-N-octylammonium]⁺[(7-{isopropyl(triethylsilylpropyl) (3-ethylnonyl)siloxy}perfluoronaphth-1-yl) (tetrafluorofluorenyl) (2',3',4'-trifluorobiphenyl) (perfluorobiphenyl)borate]⁻/ diphenylmethyl (fluorenyl) (cyclopentadienyl) zirconium dimethyl; [tri-N-octylammonium]⁺[(7-{isopropyl(triethylsilylpropyl) (3-ethylnonyl)siloxy}perfluoronaphth-1-yl) (tetrafluorofluorenyl) (2',3',4'-trifluorobiphenyl) (perfluorobiphenyl)borate]⁻/ diphenylmethylene (indenyl) (2,7-di-t-butyl fluorenyl) hafnium dibenzyl; [tri-N-octylammonium]⁺[(7-{isopropyl(triethylsilylpropyl)isopropylsiloxy}perfluoronaphth-2-yl)bis(perfluorobiphenyl) (5,6,7,8-tetrafluoronaphthyl)borate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene(fluorenyl) (indenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(7-

{isopropyl(t-butyl)cyclohexylsiloxy}perfluoropyren-1-yl) (perfluorobiphenyl) (perfluorophenyl) (perfluoropyrenyl)borate]⁻/ diphenylmethyl (cyclopentadienyl) (2,7-dimethylfluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(7-{isopropyl(triethylsilyl)ethyl} (triethylsilyl)propyl)siloxy]-perfluorofluoren-1-yl)tris(perfluorophenyl)borate]⁻/ dimethylsilylbis(tetrahydroindenyl) zirconium dichloride; [tri-N-octylammonium]⁺[(7-{isopropyl(triethylsilyl)hexyl} (methyldiethylsilyloctyl)siloxy}perfluoronaph-1-yl)bis(perfluorobiphenyl) (perfluorofluorenyl)borate]⁻/ methylene (indenyl) (2,7-di-t-butyl-fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(7-{isopropylcyclohexyl(methyldiethylsilyloctyl)siloxy}fluorofluoren-1-yl)bis(4,5,6,7-tetrafluoronaphthyl) (perfluorobiphenyl)borate]⁻/ di(4-n-butylphenyl)methylene (2,7-di-t-butyl fluorenyl) (indenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(7-{isopropylcyclohexyl(methyldiethylsilyloctyl)siloxy}fluorofluoren-1-yl)bis(4,5,6,7-tetrafluoronaphthyl) (perfluorobiphenyl)borate]⁻/ diphenylmethylene (cyclopentadienyl) (2,7-dimethyl fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(7-{isopropylcyclohexyl(triethylsilylmethyl)siloxy}perfluoronaph-1-yl) (perfluorofluorenyl) (perfluorobiphenyl) (perfluoroanthracenyl)borate]⁻/ dibutylsilyl (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(7-{isopropylcyclohexyl(triethylsilylmethyl)siloxy}-perfluoronaph-1-yl) (perfluorofluorenyl) (perfluorobiphenyl) (perfluoroanthracenyl)borate]⁻/ diphenylmethyl (cyclopentadienyl) (2,7-dimethylfluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(7-{isopropylcyclohexyl(triethylsilylmethyl)siloxy}perfluoronaph-1-yl) (perfluorofluorenyl) (perfluorobiphenyl) (perfluoroanthracenyl)borate]⁻/ methylene (2,7-di-t-butyl fluorenyl) (fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(7-{isopropyl(nonyl(triethylsilyl)octyl)siloxy}perfluoropyren-2-yl)bis(perfluorophenyl) (pentafluoropyrenyl)borate]⁻/ dibutylsilyl (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(7-{nonylisopropyl(methyldiethylsilyloctyl)siloxy}perfluoroinden-2-yl) (perfluorofluorenyl) (4,5,7-trifluoronaphthyl) (perfluoropyrenyl)borate]⁻/ dimethylsilyl(tetramethylcyclopentadienyl) (tert-butylamido) titanium dichloride; [tri-N-octylammonium]⁺[(7-{nonylisopropyl(tri-n-propylsilylhexyl)siloxy}perfluoronaph-1-yl) (perfluorophenyl) (pentafluoropyrenyl) (perfluorofluorenyl)borate]⁻/ methylene (2,7-di-t-butyl fluorenyl) (fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(7-{octyl(methyldiethylsilyloctyl) (t-butyl)siloxy}fluorofluoren-2-yl) (2,3,6-trifluorophenyl) (2',3',5'-trifluorobiphenyl) (4,5,6,7-tetrafluoronaphthyl)borate]⁻/ diphenylmethylene (cyclopentadienyl) (2,7-di-t-butyl fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(7-{octyl(triethylsilyl)ethyl} (triethylsilylmethyl)siloxy}perfluoroanthracen-1-yl) (perfluoronaphthyl) (perfluorophenyl) (4,5,6-

trifluoronaphthyl)borate]⁻/ bis(4-triethylsilylphenyl)methylene(cyclopentadienyl)
 (fluorenyl)hafnium dimethyl; [tri-N-octylammonium]⁺[(7-{octyl(triethylsilyl)ethyl})
 (triethylsilylmethyl)siloxy}perfluoronaphth-1-yl) (4,5,7-trifluoronaphthyl) (perfluorophenyl)
 (2,3,5-trifluorophenyl)borate]⁻/ dimethylsilyl (tetramethylcyclopentadienyl) (adamantyl-1-
 amino) titanium dimethyl; [tri-N-octylammonium]⁺[(7-{octylisopropyl} (triethylsilylpropyl)siloxy)-
 perfluorofluoren-1-yl) (5,6,7,8-tetrafluoronaphthyl) (perfluorobiphenyl) (4,5,6,7-
 tetrafluoronaphthyl)borate]⁻/ (4-alkylphenyl) (4-t-butylphenyl)methylene(cyclopentadienyl)
 (fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(7-{octylisopropyl}
 triethylsilylpropyl)siloxy}perfluorofluoren-1-yl) (5,6,7,8-tetrafluoronaphthyl) (perfluorobiphenyl)
 (4,5,6,7-tetrafluoronaphthyl)borate]⁻/ dimethylsilyl(tetramethylcyclopentadienyl) (tert-
 butylamido) titanium dichloride; [tri-N-octylammonium]⁺[(7-{octylisopropyl}(tri-
 isopropyl)silyloctyl)siloxy}perfluoroanthracen-1-yl)bis(perfluoropyrenyl)
 (pentafluoropyrenyl)borate]⁻/ methylene bis(fluorenyl) hafnium dimethyl; [tri-N-
 octylammonium]⁺[(7-{tri-(isopropyl)siloxy}fluoroanthracen-1-yl) (5,6,7,8-tetrafluoronaphthyl)
 (perfluoroanthracenyl) (2,3,5-trifluorophenyl)borate]⁻/ dimethylsilyl (bisindenyl) zirconium
 dichloride; [tri-N-octylammonium]⁺[(7-{tri-(isopropyl)siloxy}fluoroanthracen-1-yl) (5,6,7,8-
 tetrafluoronaphthyl) (perfluoroanthracenyl) (2,3,5-trifluorophenyl)borate]⁻/ diphenylmethylene
 (2,7-di-t-butyl fluorenyl) (fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(7-{tri-
 (isopropyl)siloxy}fluorofluoren-1-yl) (perfluorobiphenyl) (perfluorophenyl)
 (pentafluoroanthracenyl)aluminate]⁻/ dimethylsilylbis(tetrahydroindenyl) zirconium dichloride;
 [tri-N-octylammonium]⁺[(7-{tri-(isopropyl)siloxy}fluorofluoren-1-yl) (perfluorobiphenyl)
 (perfluorophenyl) (pentafluoroanthracenyl)aluminate]⁻/ methylene bis(fluorenyl) hafnium
 dimethyl; [tri-N-octylammonium]⁺[(7-{tri-(isopropyl)siloxy}fluoropyren-1-yl) (4,5,6-
 trifluoronaphthyl) (perfluorophenyl) (pentafluoropyrenyl)borate]⁻/ (4-n-butylphenyl) (4-t-
 butylphenyl)methylene (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [tri-N-
 octylammonium]⁺[(7-{tri-(isopropyl)siloxy}fluoropyren-2-yl) (2,3,4-trifluorophenyl) (2',3',5'-
 trifluorobiphenyl) (perfluoropyrenyl)borate]⁻/ dimethylsilyl (tetramethylcyclopentadienyl)
 (adamantyl-1-amino) titanium dimethyl; [tri-N-octylammonium]⁺[(7-{tri-(isopropyl)siloxy}-
 perfluoroanthracen-1-yl) (2,3,6-trifluorophenyl) (perfluorobiphenyl)
 (perfluorofluorenyl)aluminate]⁻/ methylene (2,7-di-t-butyl fluorenyl) (fluorenyl) hafnium
 dimethyl; [tri-N-octylammonium]⁺[(7-{tri-(isopropyl)siloxy}perfluoroanthracen-1-yl)
 (perfluorophenyl) (2,3,4-trifluorophenyl) (perfluorobiphenyl)borate]⁻/
 dimethylsilyl(tetramethylcyclopentadienyl) (tert-butylamido) titanium dichloride; [tri-N-

octylammonium]⁺[(7-{tri-(isopropyl)siloxy}perfluoroanthracen-1-yl)bis(perfluorobiphenyl)
 (4,5,6,7-tetrafluoronaphthylborate)]⁻/ methylene (indenyl) (2,7-di-t-butyl-fluorenyl) hafnium
 dimethyl; [tri-N-octylammonium]⁺[(7-{tri-(isopropyl)siloxy}perfluorofluoren-1-yl) (4,5,7-
 trifluoronaphthyl) (perfluoronaphthyl) (perfluorobiphenyl)borate)]⁻/ bis(4-
 (triethylsilyl)phenyl)methylene(cyclopentadienyl) (2,7-di-t-butyl-fluorenyl)hafnium dimethyl;
 [tri-N-octylammonium]⁺[(7-{tri-(isopropyl)siloxy}perfluorofluoren-1-yl) (4,5,7-trifluoronaphthyl)
 (perfluoronaphthyl) (perfluorobiphenyl)borate)]⁻/ diphenylmethyl (cyclopentadienyl) (2,7-
 dimethylfluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(7-{tri-(isopropyl)siloxy}-
 perfluorofluoren-1-yl) (4,5,7-trifluoronaphthyl) (perfluoronaphthyl) (perfluorobiphenyl)borate)]⁻/
 pentamethyl cyclopentadienyl tribenzyl titanium; [tri-N-octylammonium]⁺[(7-{tri-
 (isopropyl)siloxy}perfluorofluoren-1-yl)bis(perfluorophenyl) (2,3,4-trifluorophenylborate)]⁻/
 diphenylmethylene(cyclopentadienyl) (fluorenyl) hafnium dimethyl; [tri-N-
 octylammonium]⁺[(7-{tri-(isopropyl)siloxy}perfluorofluoren-2-yl) (2,3,4-trifluorophenyl) (4,5,7-
 trifluoronaphthyl) (2',3',5'-trifluorobiphenyl)aluminate)]⁻/ dimethylsilyl
 (tetramethylcyclopentadienyl) (t-butylamino) titanium dimethyl; [tri-N-octylammonium]⁺[(7-{tri-
 (isopropyl)siloxy}perfluorofluoren-2-yl) (4,5,7-trifluoronaphthyl) (perfluorobiphenyl)
 (perfluorofluorenyl)borate)]⁻/ dimethylsilyl (indenyl) (fluorenyl) hafnium dihydride; [tri-N-
 octylammonium]⁺[(7-{tri-(isopropyl)siloxy}perfluorofluoren-2-yl) (4,5,7-trifluoronaphthyl)
 (perfluorobiphenyl) (perfluorofluorenyl)borate)]⁻/ methylphenylmethylene bis(fluorenyl)
 hafnium dimethyl; [tri-N-octylammonium]⁺[(7-{tri-(isopropyl)siloxy}perfluorofluoren-2-yl)
 (pentafluoropyrenyl) (perfluorophenyl) (perfluorobiphenyl)borate)]⁻/ methylene (indenyl) (2,7-
 di-t-butyl-fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(7-{tri-(isopropyl)siloxy}-
 perfluorofluoren-2-yl)bis(perfluorobiphenyl) (perfluoroanthracenyl)borate)]⁻/
 diphenylmethylene(cyclopentadienyl) (2,7-methyl-fluorenyl) hafnium dimethyl; [tri-N-
 octylammonium]⁺[(7-{tri-(isopropyl)siloxy}perfluoroinden-2-yl) (pentafluoroanthracenyl)
 (perfluorobiphenyl) (perfluorophenyl)borate)]⁻/ dimethylsilyl (tetramethylcyclopentadienyl) (t-
 butylamino) titanium dimethyl; [tri-N-octylammonium]⁺[(7-{tri-(isopropyl)siloxy}perfluoroinden-
 2-yl) (perfluorophenyl) (5,6,7,8-tetrafluoronaphthyl) (2,3,6-trifluorophenyl)borate)]⁻/
 pentamethyl cyclopentadienyl titanium isopropoxide; [tri-N-octylammonium]⁺[(7-{tri-
 (isopropyl)siloxy}perfluoroinden-2-yl)bis(perfluorobiphenyl) (perfluorophenyl)borate)]⁻/ bis(4-
 triethylsilylphenyl)methylene(cyclopentadienyl) (2,7-di-t-butyl-fluorenyl)hafnium dimethyl; [tri-
 N-octylammonium]⁺[(7-{tri-(isopropyl)siloxy}perfluoronaph-1-yl) (perfluorofluorenyl) (2,3,6-

trifluorophenyl) (perfluorobiphenyl)borate]⁻/ bis(4-(triethylsilyl)phenyl)methylene(cyclopentadienyl) (fluorenyl)hafnium dimethyl; [tri-N-octylammonium]⁺[(7-{tri-(isopropyl)siloxy}perfluoronaphth-1-yl) (perfluoronaphthyl) (4,5,6-trifluoronaphthyl) (2',3',5'-trifluorobiphenyl)borate]⁻/ dimethylsilyl bis(methylindenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(7-{tri-(isopropyl)siloxy}perfluoronaphth-2-yl) (2,3,4-trifluorophenyl) (2,3,5-trifluorophenyl) (perfluorophenyl)borate]⁻/ (4-n-propylphenyl) (4-isopropylphenyl)silylenebis(fluorenyl) hafnium di-t-butyl; [tri-N-octylammonium]⁺[(7-{tri-(isopropyl)siloxy}perfluoronaphth-2-yl) (2,3,4-trifluorophenyl) (2,3,5-trifluorophenyl) (perfluorophenyl)borate]⁻/ dimethylsilyl (tetramethylcyclopentadienyl) (t-butylamino) titanium dimethyl; [tri-N-octylammonium]⁺[(7-{tri-(isopropyl)siloxy}perfluoronaphth-2-yl) (2,3,5-trifluorophenyl) (perfluorophenyl) (perfluorobiphenyl)aluminate]⁻/ dimethylsilyl(tetramethylcyclopentadienyl) (adamantylamido) titanium dichloride; [tri-N-octylammonium]⁺[(7-{tri-(isopropyl)siloxy}perfluoronaphth-2-yl) (perfluorophenyl) (2,3,5-trifluorophenyl) (4,5,7-trifluoronaphthyl)borate]⁻/ dimethylsilyl bis(2-methyl-4-naphth-2-yl-indenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(7-{tri-(isopropyl)siloxy}perfluoronaphth-2-yl) (perfluorophenyl) (2,3,6-trifluorophenyl) (5,6,7,8-tetrafluoronaphthyl)borate]⁻/ (pentamethylcyclopentadienyl) (cyclopentadienyl)zirconium dimethyl; [tri-N-octylammonium]⁺[(7-{tri-(isopropyl)siloxy}perfluoronaphth-2-yl)bis(perfluorofluorenyl) (4,5,6,7-tetrafluoronaphthyl)borate]⁻/ diphenylmethyl (cyclopentadienyl) (2,7-dimethylfluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(7-{tri-(isopropyl)siloxy}perfluoronaphth-3-yl) (perfluorobiphenyl) (pentafluoroanthracenyl) (perfluorophenyl)borate]⁻/ bis(1,3-dibutyl-methyl-cyclopentadienyl) zirconium dimethyl; [tri-N-octylammonium]⁺[(7-{tri-(isopropyl)siloxy}perfluoronaphth-3-yl) (perfluorobiphenyl) (pentafluoroanthracenyl) (perfluorophenyl)borate]⁻/ dimethylsilyl bis(2-methyl-4-phenyl-indenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(7-{tri-(isopropyl)siloxy}perfluoronaphth-3-yl) (perfluorobiphenyl) (pentafluoroanthracenyl) (perfluorophenyl)borate]⁻/ dimethylsilyl bis(methylindenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(7-{tri-(isopropyl)siloxy}perfluoronaphth-3-yl)bis(perfluorobiphenyl) (perfluoroanthracenyl)borate]⁻/ dimethylsilyl bis(2-methyl-4-naphth-2-yl-indenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(7-{tri-(isopropyl)siloxy}perfluoropyren-1-yl) (2',3',4'-trifluorobiphenyl) (perfluorobiphenyl) (pentafluoropyrenyl)borate]⁻/ (4-n-propylphenyl) (4-isopropylphenyl)silylenebis(fluorenyl) hafnium di-t-butyl; [tri-N-octylammonium]⁺[(7-{tri-(isopropyl)siloxy}perfluoropyren-1-yl) (4,5,7-trifluoronaphthyl) (perfluorophenyl) (2',3',4'-

trifluorobiphenyl)borate]⁻/ diphenylmethylene (cyclopentadienyl) (2,7-dimethyl fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(7-{tri-(isopropyl)siloxy}perfluoropyren-1-yl)bis(perfluorophenyl) (perfluoronaphthyl)aluminate]⁻/ dimethylsilyl(tetramethylcyclopentadienyl) (t-butylamido) zirconium dimethyl; [tri-N-octylammonium]⁺[(7-{tri-(isopropyl)siloxy}perfluoropyren-1-yl)bis(tetrafluorofluorenyl) (2',3',5'-trifluorobiphenyl)aluminate]⁻/ methylphenylmethylene bis(fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(7-{tri-(isopropyl)siloxy}perfluoropyren-2-yl) (2',3',4'-trifluorobiphenyl) (perfluorobiphenyl) (2',3',5'-trifluorobiphenyl)aluminate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene (2,7-di-t-butyl-fluorenyl) (cyclopentadienyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(7-{tri-(isopropyl)siloxy}perfluoropyren-2-yl) (perfluoroanthracenyl) (2',3',4'-trifluorobiphenyl) (5,6,7,8-tetrafluoronaphthyl)borate]⁻/ dimethylsilyl bis(2-methyl-4-phenyl-indenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(7-{tri-(isopropyl)siloxy}perfluoropyren-2-yl) (perfluorophenyl) (perfluoronaphthyl) (4,5,7-trifluoronaphthyl)borate]⁻/ dimethylsilylbis(tetrahydroindenyl) zirconium dichloride; [tri-N-octylammonium]⁺[(7-{tri-(isopropyl)siloxy}perfluoropyren-2-yl)bis(perfluorophenyl) (4,5,6,7-tetrafluoronaphthyl)aluminate]⁻/ dimethylsilyl(tetramethylcyclopentadienyl) (dodecylamido) hafnium dihydride; [tri-N-octylammonium]⁺[(8-{(2,2-dimethyloctyl) (3-ethylnonyl) (triethylsilylpropyl)siloxy}perfluoronaphth-3-yl)bis(perfluorophenyl) (tetrafluorofluorenyl)borate]⁻/ dinaphthylmethylene (cyclopentadienyl) (fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(8-{(triethylsilylethyl)octylisopropylsiloxy}perfluoropyren-2-yl) (2',3',4'-trifluorobiphenyl) (tetrafluorofluorenyl) (perfluorophenyl)borate]⁻/ dimethylsilyl(tetramethylcyclopentadienyl) (tert-butylamido) titanium dichloride; [tri-N-octylammonium]⁺[(8-{(tri-n-propylsilylhexyl) (methyldiethylsilyloctyl)isopropylsiloxy}perfluoropyren-2-yl) (pentafluoroanthracenyl) (2,3,4-trifluorophenyl) (pentafluoropyrenyl)borate]⁻/ di(4-n-butylphenyl)methylene (2,7-di-t-butyl fluorenyl) (indenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(8-{(tri-n-propylsilylhexyl) (methyldiethylsilyloctyl)isopropylsiloxy}perfluoropyren-2-yl) (pentafluoroanthracenyl) (2,3,4-trifluorophenyl) (pentafluoropyrenyl)borate]⁻/ dimethylsilyl (indenyl) (fluorenyl) hafnium dihydride; [tri-N-octylammonium]⁺[(8-{(tri-n-propylsilylhexyl) (triethylsilylhexyl)isopropylsiloxy}perfluoropyren-2-yl)bis(perfluorophenyl) (2',3',4'-trifluorobiphenyl)borate]⁻/ diphenylmethyl (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(8-{di-((methyldiethylsilyloctyl) (tri-(isopropyl)silyloctyl)siloxy)-

perfluoropyren-2-yl) (perfluorobiphenyl) (perfluoronaphthyl) (2,3,4-trifluorophenyl)borate]⁻/ (4-n-propylphenyl) (4-isopropylphenyl)silylenebis(fluorenyl) hafnium di-t-butyl; [tri-N-octylammonium]⁺[(8-{di-(isopropyl) (triethylsilylhexyl)siloxy}fluoropyren-2-yl)bis(perfluorophenyl) (perfluorobiphenyl)borate]⁻/ di(4-n-butylphenyl)methylene (2,7-di-t-butyl fluorenyl) (indenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(8-{di-(isopropyl) (triethylsilylhexyl)siloxy}fluoropyren-2-yl)bis(perfluorophenyl) (perfluorobiphenyl)borate]⁻/ dimethylsilylbis(tetrahydroindenyl) zirconium dichloride; [tri-N-octylammonium]⁺[(8-{isopropyl(t-butyl)nonylsiloxy}perfluoropyren-2-yl)bis(perfluorophenyl) (pentafluoropyrenyl)borate]⁻/ dimethylsilyl (indenyl) (fluorenyl) hafnium dihydride; [tri-N-octylammonium]⁺[(8-{isopropylcyclohexyl (3-ethylnonyl)siloxy}perfluoronaphth-3-yl)bis(perfluorofluorenyl) (2,3,5-trifluorophenyl)aluminate]⁻/ diphenylmethylene(cyclopentadienyl) (2,7-methyl-fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(8-{isopropylcyclohexyl (3-ethylnonyl)siloxy}perfluoronaphth-3-yl)bis(perfluorofluorenyl) (2,3,5-trifluorophenyl)aluminate]⁻/ pentamethyl cyclopentadienyl titanium isopropoxide; [tri-N-octylammonium]⁺[(8-{tri-(isopropyl)siloxy}perfluoronaphth-3-yl) (2',3',4'-trifluorobiphenyl) (4,5,7-trifluoronaphthyl) (perfluoroanthracenyl)borate]⁻/ (tetramethyl-cyclopentadienyl) (n-propylcyclopentadienyl) zirconium dimethyl; [tri-N-octylammonium]⁺[(8-{tri-(isopropyl)siloxy}perfluoronaphth-3-yl)bis(perfluorobiphenyl) (perfluorophenyl)borate]⁻/ isopropyl (cyclopentadienyl) (fluorenyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(8-{tri-(isopropyl)siloxy}perfluoropyren-2-yl) (4,5,6-trifluoronaphthyl) (perfluorofluorenyl) (perfluorobiphenyl)aluminate]⁻/ dimethylsilylbis(2-methylbenzindenyl) zirconium dimethyl; [tri-N-octylammonium]⁺[(8-{tri-(isopropyl)siloxy}perfluoropyren-2-yl) (perfluorophenyl) (4,5,7-trifluoronaphthyl) (perfluoronaphthyl)aluminate]⁻/ di(4-n-butylphenyl)methylene (2,7-di-t-butyl fluorenyl) (cyclopentadienyl) hafnium dimethyl; [tri-N-octylammonium]⁺[(8-{tri-(isopropyl)siloxy}perfluoropyren-2-yl) (perfluorophenyl) (4,5,7-trifluoronaphthyl) (perfluoronaphthyl)aluminate]⁻/ dimethylsilyl (bisindenyl) zirconium dichloride; [trioctyl-ammonium]⁺[(3'-{nonyl(triethylsilylethyl)isopropylsiloxy}perfluorobiphen-4-yl) (perfluorophenyl) (perfluoropyrenyl) (4,5,7-trifluoronaphthyl)aluminate]⁻/ dimethylsilyl bis(2-propyl-indenyl) hafnium dimethyl; [trioctyl-ammonium]⁺[(3'-{nonyl(triethylsilylethyl)isopropylsiloxy}perfluorobiphen-4-yl) (perfluorophenyl) (perfluoropyrenyl) (4,5,7-trifluoronaphthyl)aluminate]⁻/ dimethylsilyl bis(methylindenyl) hafnium dimethyl; [trioctyl-ammonium]⁺[(3'-{tri-(isopropyl)siloxy}perfluorobiphen-4-yl)

(perfluorobiphenyl) (perfluorophenyl) (2,3,6-trifluorophenyl)borate]⁻/ dimethylsilyl
 (tetramethylcyclopentadienyl) (adamantyl-1-amino) titanium dimethyl;
 [trioctyl-ammonium]⁺[(4'-{(2,2-dimethyloctyl)cyclohexyl(triethylsilylpropyl)siloxy}-
 perfluorobiphen-4-yl)bis(perfluorophenyl) (4,5,6-trifluoronaphthyl)borate]⁻/ (4-n-propylphenyl)
 (4-isopropylphenyl)silylenebis(fluorenyl) hafnium di-t-butyl; [trioctyl-ammonium]⁺[(4-
 {(triethylsilylethyl) (trimethylsilylethyl)hexylsiloxy}perfluorophenyl) (perfluoronaphthyl)
 (perfluorofluorenyl) (4,5,6,7-tetrafluoronaphthyl)aluminate]⁻/ dimethylsilyl (bisindenyl)
 zirconium dichloride; [trioctyl-ammonium]⁺[(4'-{(trimethylsilylethyl) (triethylsilylethyl)
 (methyl-diethylsilyloctyl)siloxy}perfluorobiphen-3-yl) (perfluoroanthracenyl) (perfluorofluorenyl)
 (perfluorophenyl)borate]⁻/ dimethylsilylbis(tetrahydroindenyl) zirconium dichloride;
 [trioctyl-ammonium]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl) (perfluorofluorenyl) (2,3,5-
 trifluorophenyl) (perfluorophenyl)borate]⁻/ bis(4-
 triethylsilylphenyl)methylene(cyclopentadienyl) (2,7-di-t-butyl-fluorenyl)hafnium dimethyl;
 [trioctyl-ammonium]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl) (perfluorofluorenyl) (2,3,5-
 trifluorophenyl) (perfluorophenyl)borate]⁻/ di(4-n-butylphenyl)methylene (2,7-dimethyl
 fluorenyl) (cyclopentadienyl) hafnium dimethyl; [trioctyl-ammonium]⁺[(5-{(t-
 butyl)hexyl(triethylsilylethyl)siloxy}perfluoroinden-1-yl) (2,3,4-trifluorophenyl)
 (pentafluoroanthracenyl) (perfluorophenyl)aluminate]⁻/ di(4-n-butylphenyl) methylene
 (fluorenyl) (indenyl) hafnium dimethyl; [trioctyl-ammonium]⁺[(5-{tri-(isopropyl)siloxy}-
 perfluoronaph-2-yl) (perfluorophenyl) (pentafluoropyrenyl) (perfluoropyrenyl)borate]⁻/
 diphenylmethylene (cyclopentadienyl) (2,7-di-t-butyl fluorenyl) hafnium dimethyl;
 [trioctyl-ammonium]⁺[(6-{(triethylsilylethyl)benzylisopropylsiloxy}perfluoroanthracen-1-yl)
 (perfluorophenyl) (perfluoroanthracenyl) (perfluorobiphenyl)aluminate]⁻/
 silacyclobutyl(tetramethylcyclopentadienyl) (n-propylcyclopentadienyl) zirconium dimethyl;
 [trioctyl-ammonium]⁺[(6-{di-((methyl-diethylsilyloctyl))isopropylsiloxy}perfluoronaph-1-yl)
 (perfluoroanthracenyl) (perfluoronaphthyl) (perfluorobiphenyl)borate]⁻/ methylene (2,7-di-t-
 butyl fluorenyl) (fluorenyl) hafnium dimethyl; [trioctyl-ammonium]⁺[(6-{tri-(isopropyl)siloxy}-
 fluoronaph-2-yl) (perfluorophenyl) (2',3',4'-trifluorobiphenyl) (perfluorobiphenyl)borate]⁻/
 (pentamethylcyclopentadienyl) (cyclopentadienyl)zirconium dimethyl;
 [trioctyl-ammonium]⁺[(6-{tri-(isopropyl)siloxy}fluoronaph-2-yl)tris(perfluorophenyl)aluminate]⁻/
 pentamethyl cyclopentadienyl tribenzyl titanium; [trioctyl-ammonium]⁺[(7-{tri-
 (isopropyl)siloxy}perfluoronaph-1-yl)bis(perfluorophenyl) (4,5,6,7-tetrafluoronaphthyl)borate]⁻/

diphenylmethyl (cyclopentadienyl) (2,7-di-*t*-butyl-fluorenyl) hafnium dimethyl;
 [trioctyl-phosphonium]⁺[(3-{tri-(isopropyl)siloxy}perfluorophenyl) (perfluorobiphenyl)
 (tetrafluorofluorenyl) (5,6,7,8-tetrafluoronaphthyl)borate]⁻/ (4-*n*-butylphenyl) (4-*t*-
 butylphenyl)methylene(fluorenyl) (indenyl) hafnium dimethyl; [trioctyl-phosphonium]⁺[(3-{tri-
 (isopropyl)siloxy}perfluorophenyl) (perfluorobiphenyl) (tetrafluorofluorenyl) (5,6,7,8-
 tetrafluoronaphthyl)borate]⁻/ dimethylsilyl (tetramethylcyclopentadienyl) (adamantyl-1-amino)
 titanium dimethyl; [trioctyl-phosphonium]⁺[(3-{tri-(isopropyl)siloxy}perfluorophenyl)
 (perfluorobiphenyl) (tetrafluorofluorenyl) (5,6,7,8-tetrafluoronaphthyl)borate]⁻/ dimethylsilyl
 bis(indenyl) hafnium dimethyl; [trioctyl-phosphonium]⁺[(4-{cyclohexyl(
 triethylsilylpropyl)isopropylsiloxy}perfluorophenyl)bis(2,3,5-trifluorophenyl)
 (perfluoropyrenyl)aluminate]⁻/ dimethylsilyl (indenyl) (fluorenyl) hafnium dihydride;
 [trioctyl-phosphonium]⁺[(4-{ethyl (3-ethylnonyl) (methyldiethylsilyloctyl)siloxy}-
 perfluorophenyl)tris(perfluorophenyl)borate]⁻/ (4-*n*-butylphenyl) (4-*t*-butylphenyl)methylene
 (2,7-di-*t*-butyl-fluorenyl) (indenyl) hafnium dimethyl; [trioctyl-phosphonium]⁺[(6-{tri-
 (isopropyl)siloxy}fluoronaph-2-yl) (4,5,7-trifluoronaphthyl) (perfluorobiphenyl)
 (perfluorofluorenyl)borate]⁻/ dimethylsilyl (tetramethylcyclopentadienyl) (adamantyl-1-amino)
 titanium dimethyl; [trioctyl-phosphonium]⁺[(6-{tri-(isopropyl)siloxy}fluoronaph-2-yl) (4,5,7-
 trifluoronaphthyl) (perfluorobiphenyl) (perfluorofluorenyl)borate]⁻/
 dimethylsilyl(tetramethylcyclopentadienyl) (adamantylamido) titanium dichloride;
 [trioctyl-phosphonium]⁺[(6-{tri-(isopropyl)siloxy}fluoronaph-2-yl) (4,5,7-trifluoronaphthyl)
 (perfluorobiphenyl) (perfluorofluorenyl)borate]⁻/ diphenylmethyl (cyclopentadienyl) (fluorenyl)
 hafnium dimethyl; [trioctyl-phosphonium]⁺[(7-{(triethylsilylmethyl)isopropyl(2,2-
 dimethyloctyl)siloxy}perfluoroinden-2-yl) (perfluorophenyl) (perfluoropyrenyl)
 (perfluorobiphenyl)aluminate]⁻/ methylphenylmethylene bis(fluorenyl) hafnium dimethyl;
 [trioctyl-phosphonium]⁺[(7-{hexyl(triethylsilylmethyl) (2,2-dimethyloctyl)siloxy}perfluorofluoren-
 1-yl) (2,3,6-trifluorophenyl) (2,3,5-trifluorophenyl) (perfluorobiphenyl)borate]⁻/
 dimethylsilyl(tetramethylcyclopentadienyl) (adamantylamido) titanium dichloride;
 [trioctyl-phosphonium]⁺[(7-{tri-(isopropyl)siloxy}perfluoronaph-2-yl)bis(perfluorophenyl) (2,3,4-
 trifluorophenyl)aluminate]⁻/ dimethylsilyl(tetramethylcyclopentadienyl) (dodecylamido)
 hafnium dihydride; [trioctyl-phosphonium]⁺[(8-{octyl(tri-*n*-propylsilylhexyl) (
 triethylsilylpropyl)siloxy}fluoronaph-3-yl)bis(perfluorophenyl) (pentafluoroanthracenyl)borate]⁻
 / dimethylsilyl (bisindenyl) zirconium dichloride; [tripropyl-ammonium]⁺[(3-
 {octyl(trimethylsilylethyl) (methyldiethylsilyloctyl)siloxy}perfluorophenyl) (4,5,7-

trifluoronaphthyl) (perfluoronaphthyl) (2,3,5-trifluorophenyl)borate]⁻/

diphenylmethylene(cyclopentadienyl) (2,7-di-t-butyl-fluorenyl) hafnium dimethyl;

[tripropyl-ammonium]⁺[(3'-{tri-(isopropyl)siloxy}perfluorobiphen-4-yl) (2',3',4'-trifluorobiphenyl) (pentafluoropyrenyl) (perfluorophenyl)borate]⁻/ diphenylmethylene(cyclopentadienyl) (2,7-di-t-butyl-fluorenyl) hafnium dimethyl; [tripropyl-ammonium]⁺[(4'-{(triethylsilylmethyl) (triethylsilylpropyl) (triethylsilylmethyl)siloxy}perfluorobiphen-4-yl)bis(perfluorophenyl) (perfluorobiphenylborate]⁻/ bis(trimethylsilyl) titanium dimethyl; [tripropyl-ammonium]⁺[(4'-{(triethylsilylmethyl) (triethylsilylpropyl) (triethylsilylmethyl)siloxy}perfluorobiphen-4-yl)bis(perfluorophenyl) (perfluorobiphenylborate]⁻/ di(4-n-butylphenyl)methylene (2,7-dimethyl fluorenyl) (cyclopentadienyl) hafnium dibenzyl; [tripropyl-ammonium]⁺[(4'-{benzylisopropylhexylsiloxy}perfluorophenyl) (perfluorobiphenyl) (perfluorophenyl) (perfluorofluorenyl)aluminate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene (2,7-di-t-butyl-fluorenyl) (indenyl) hafnium dimethyl; [tripropyl-ammonium]⁺[(4'-{tri-(isopropyl)siloxy}-perfluorobiphen-3-yl) (perfluoropyrenyl) (perfluorophenyl) (4,5,6,7-tetrafluoronaphthyl)borate]⁻/ di(4-n-propylphenyl)methylene (2,7-di-t-butyl-5-methylfluorenyl) (fluorenyl) hafnium dimethyl; [tripropyl-ammonium]⁺[(4'-{tri-(isopropyl)siloxy}perfluorophenyl) (2',3',4'-trifluorobiphenyl) (perfluorophenyl) (2,3,4-trifluorophenyl)borate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene(2,7-dimethyl-fluorenyl) (indenyl) hafnium dibenzyl;

[tripropyl-ammonium]⁺[(4'-{tri-(isopropyl)siloxy}perfluorophenyl) (5,6,7,8-tetrafluoronaphthyl) (perfluorophenyl) (4,5,7-trifluoronaphthyl)aluminate]⁻/ dimethylsilyl bis(2-methyl-4-phenyl-indenyl) hafnium dimethyl; [tripropyl-ammonium]⁺[(4'-{tri-(isopropyl)siloxy}perfluorophenyl) (perfluorobiphenyl) (pentafluoropyrenyl) (perfluoronaphthyl)borate]⁻/ (4-n-propylphenyl) (4-methylphenyl)methylene(fluorenyl) (indenyl) hafnium dimethyl; [tripropyl-ammonium]⁺[(7'-{(triethylsilylpropyl)benzylisopropylsiloxy}perfluoroinden-2-yl) (4,5,6-trifluoronaphthyl) (2,3,5-trifluorophenyl) (perfluorophenyl)borate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene(fluorenyl) (indenyl) hafnium dimethyl; [tripropyl-ammonium]⁺[(7'-{(2,2-dimethyloctyl) (3-ethylnonyl) (triethylsilylpropyl)siloxy}perfluoroinden-2-yl) (tetrafluorofluorenyl) (perfluorophenyl) (2,3,4-trifluorophenyl)aluminate]⁻/ di(4-n-butylphenyl)methylene (2,7-dimethyl fluorenyl) (cyclopentadienyl) hafnium dimethyl;

[tripropyl-ammonium]⁺[(7'-{(2,2-dimethyloctyl) (3-ethylnonyl) (triethylsilylpropyl)siloxy}-perfluoroinden-2-yl) (tetrafluorofluorenyl) (perfluorophenyl) (2,3,4-trifluorophenyl)aluminate]⁻/ dimethylsilylbis(2-methylbenzindenyl) zirconium dimethyl; [tripropyl-ammonium]⁺[(7'-{(2,2-dimethyloctyl) (3-ethylnonyl) (triethylsilylpropyl)siloxy}perfluoroinden-2-yl)

(tetrafluorofluorenyl) (perfluorophenyl) (2,3,4-trifluorophenyl)aluminate]⁻/ diphenylmethyl
 (fluorenyl) (cyclopentadienyl) zirconium dimethyl; [tripropyl-ammonium]⁺[(7-
 {octylisopropyloctylsiloxy}perfluoronaph-3-yl) (2,3,6-trifluorophenyl) (5,6,7,8-
 tetrafluoronaphthyl) (2,3,5-trifluorophenyl)borate]⁻/ methylphenylmethylene bis(fluorenyl)
 hafnium dimethyl; [tripropyl-ammonium]⁺[(7-{tri-(isopropyl)siloxy}perfluoroinden-2-yl) (4,5,6-
 trifluoronaphthyl) (2,3,6-trifluorophenyl) (tetrafluorofluorenyl)borate]⁻/
 (tetramethyl-cyclopentadienyl) (n-propylcyclopentadienyl) zirconium dimethyl;
 [tripropyl-ammonium]⁺[(7-{tri-(isopropyl)siloxy}perfluoroinden-2-yl) (perfluorophenyl) (2,3,6-
 trifluorophenyl) (2,3,5-trifluorophenyl)borate]⁻/ dimethylsilyl bis(methylindenyl) hafnium
 dimethyl; [tripropyl-ammonium]⁺[(7-{tri-(isopropyl)siloxy}perfluoronaph-1-yl)
 (tetrafluorofluorenyl) (perfluorofluorenyl) (perfluorophenyl)borate]⁻/
 (tetramethyl-cyclopentadienyl) (n-propylcyclopentadienyl) zirconium dimethyl;
 [tripropyl-ammonium]⁺[(7-{tri-(isopropyl)siloxy}perfluoropyren-2-yl)bis(perfluorophenyl)
 (perfluorobiphenylaluminate)]⁻/ dimethylsilyl (bisindenyl) zirconium dichloride;
 [tripropyl-ammonium]⁺[(7-{tri-(isopropyl)siloxy}perfluoropyren-2-yl)bis(perfluorophenyl)
 (perfluorobiphenylaluminate)]⁻/ methylene bis(fluorenyl) hafnium dimethyl;
 [tripropyl-phosphonium]⁺[(3-{ (3-ethylnonyl)isopropyl(t-butyl)siloxy}perfluorophenyl)
 (perfluorobiphenyl) (pentafluoroanthracenyl) (perfluoropyrenyl)borate]⁻/ dimethylsilyl
 (tetramethylcyclopentadienyl) (adamantyl-1-amino) titanium dimethyl;
 [tripropyl-phosphonium]⁺[(3-{ (3-ethylnonyl)isopropyl(t-butyl)siloxy}perfluorophenyl)
 (perfluorobiphenyl) (pentafluoroanthracenyl) (perfluoropyrenyl)borate]⁻/ dimethylsilyl
 bis(phenylmethylindenyl) hafnium dimethyl; [tripropyl-phosphonium]⁺[(3-{ (3-
 ethylnonyl)isopropyl(t-butyl)siloxy}perfluorophenyl) (perfluorobiphenyl)
 (pentafluoroanthracenyl) (perfluoropyrenyl)borate]⁻/
 dimethylsilyl(tetramethylcyclopentadienyl) (dodecylamido) hafnium dimethyl;
 [tripropyl-phosphonium]⁺[(3-{ (3-ethylnonyl)isopropyl(t-butyl)siloxy}perfluorophenyl)
 (perfluorobiphenyl) (pentafluoroanthracenyl) (perfluoropyrenyl)borate]⁻/ isopropyl
 (cyclopentadienyl) (fluorenyl) hafnium dimethyl; [tripropyl-phosphonium]⁺[(3-{ (3-
 ethylnonyl)isopropyl(t-butyl)siloxy}perfluorophenyl) (perfluorobiphenyl)
 (pentafluoroanthracenyl) (perfluoropyrenyl)borate]⁻/ methylene bis(fluorenyl) hafnium
 dimethyl; [tripropyl-phosphonium]⁺[(4-{(trimethylsilylethyl) (t-butyl) (triethylsilylethyl)siloxy}-
 perfluorophenyl) (5,6,7,8-tetrafluoronaphthyl) (perfluorobiphenyl) (perfluorofluorenyl)borate]⁻

dimethylsilyl bis(indenyl) hafnium dimethyl; [tripropyl-phosphonium]⁺[(4-((trimethylsilyl)ethyl) (t-butyl) (triethylsilyl)ethoxy)perfluorophenyl] (5,6,7,8-tetrafluoronaphthyl) (perfluorobiphenyl) (perfluorofluorenyl)borate]⁻/ diphenylmethane (2,7-di-t-butyl fluorenyl) (fluorenyl) hafnium dimethyl; [tripropyl-phosphonium]⁺[(5-((triethylsilyl)methyl) (triethylsilyl)propyl) (triethylsilyl)methoxy]perfluoroinden-1-yl) (perfluoroanthracenyl) (perfluorophenyl) (perfluorobiphenyl)borate]⁻/ bis(4- (triethylsilyl)phenyl)methylene(cyclopentadienyl) (fluorenyl)hafnium dimethyl; [tripropyl-phosphonium]⁺[(5-((triethylsilyl)methyl) (triethylsilyl)propyl) (triethylsilyl)methoxy]-perfluoroinden-1-yl) (perfluoroanthracenyl) (perfluorophenyl) (perfluorobiphenyl)borate]⁻/ dimethylsilyl(tetramethylcyclopentadienyl) (dodecylamido) hafnium dimethyl; [tripropyl-phosphonium]⁺[(5-((triethylsilyl)methyl) (triethylsilyl)propyl) (triethylsilyl)methoxy]-perfluoroinden-2-yl) (perfluoroanthracenyl) (2,3,4-trifluorophenyl) (perfluorophenyl)borate]⁻/ bis(4- triethylsilylphenyl)methylene(cyclopentadienyl) (2,7-di-t-butyl-fluorenyl)hafnium dimethyl; [tripropyl-phosphonium]⁺[(5-((triethylsilyl)methyl) (triethylsilyl)propyl) (triethylsilyl)methoxy]-perfluoronaphth-3-yl) (pentafluoroanthracenyl) (2',3',4'-trifluorobiphenyl) (perfluorophenyl)borate]⁻/ diphenylmethane (cyclopentadienyl) (2,7-di-t-butyl fluorenyl) hafnium dimethyl; [tripropyl-phosphonium]⁺[(5-((triethylsilyl)methyl) (triethylsilyl)propyl) (triethylsilyl)methoxy]-perfluoronaphth-3-yl)bis(perfluorophenyl) (perfluoroanthracenyl)aluminate]⁻/ methane (2,7-di-t-butyl fluorenyl) (fluorenyl) hafnium dimethyl; [tripropyl-phosphonium]⁺[(6-((t-butyl)nonyl(methyldiethylsilyloctyl)siloxy)perfluoronaphth-2-yl) (perfluorophenyl) (perfluorobiphenyl) (2,3,5-trifluorophenyl)borate]⁻/ diphenylmethane(cyclopentadienyl) (2,7-methyl-fluorenyl) hafnium dimethyl; [tripropyl-phosphonium]⁺[(6-((triethylsilyl)methyl) (triethylsilyl)propyl) (triethylsilyl)methoxy]-perfluoronaphth-3-yl) (perfluoropyrenyl) (2',3',5'-trifluorobiphenyl) (perfluorobiphenyl)borate]⁻/ di(4-n-butylphenyl)methylene (2,7-dimethyl fluorenyl) (cyclopentadienyl) hafnium dibenzyl; [tripropyl-phosphonium]⁺[(6-((triethylsilyl)methyl) (triethylsilyl)propyl) (triethylsilyl)methoxy]-perfluoronaphth-2-yl) (4,5,7-trifluoronaphthyl) (2,3,4-trifluorophenyl) (4,5,6-trifluoronaphthyl)borate]⁻/ bis(4- (triethylsilyl)phenyl)methylene(cyclopentadienyl) (2,7-di-t-butyl-fluorenyl)hafnium dimethyl; [tripropyl-phosphonium]⁺[(6-((triethylsilyl)methyl) (triethylsilyl)propyl) (triethylsilyl)methoxy]-perfluoronaphth-3-yl) (2,3,5-trifluorophenyl) (perfluorophenyl) (perfluoroanthracenyl)aluminate]⁻/ di(4-n-butylphenyl) methane (fluorenyl) (indenyl) hafnium dimethyl; [tripropyl-phosphonium]⁺[(6-((triethylsilyl)methyl) (triethylsilyl)propyl) (triethylsilyl)methoxy]-perfluoronaphth-3-yl) (2,3,5-trifluorophenyl) (perfluorophenyl) (perfluoroanthracenyl)aluminate]⁻/ diphenylmethane (2,7-di-t-butyl-5-methylfluorenyl) (cyclopentadienyl) hafnium dimethyl; [tripropyl-phosphonium]⁺[(7-((triethylsilyl)hexyl) (triethylsilyl)methyl)siloxy]-

perfluoroanthracen-1-yl)bis(perfluorophenyl) (2,3,5-trifluorophenyl)borate]⁻/

dimethylsilyl(tetramethylcyclopentadienyl) (tert-butylamido) titanium dichloride; [tri-t-butyl-ammonium]⁺[(4-{(trimethylsilyl)ethyl}isopropyl(triethylsilylmethyl)siloxy)perfluorophenyl (perfluoropyrenyl) (perfluorobiphenyl) (4,5,7-trifluoronaphthyl)borate]⁻/ (4-n-propylphenyl) (4-isopropylphenyl)methylene (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [tri-t-butyl-ammonium]⁺[(4'-{tri-(isopropyl)siloxy}perfluorobiphen-4-yl) (5,6,7,8-tetrafluoronaphthyl) (perfluorophenyl) (perfluorofluorenyl)borate]⁻/ dimethylsilyl bis(phenylmethylindenyl) hafnium dimethyl; [tri-t-butyl-ammonium]⁺[(5-{(trimethylsilyl)ethyl}hexylisopropylsiloxy)perfluoronaphth-2-yl)bis(perfluorophenyl) (pentafluoropyrenyl)aluminate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene (2,7-di-t-butyl-fluorenyl) (cyclopentadienyl) hafnium dimethyl; [tri-t-butyl-ammonium]⁺[(5-{(tri-n-propylsilyl)hexyl} (methyldiethylsilyloctyl)isopropylsiloxy)-perfluoronaphth-2-yl) (perfluorobiphenyl) (2,3,6-trifluorophenyl) (perfluoronaphthyl)borate]⁻/

dimethylsilyl (tetramethylcyclopentadienyl) (t-butylamino) titanium dimethyl; [tri-t-butyl-ammonium]⁺[(6-{(triethylsilyl)hexyl}isopropylcyclohexylsiloxy)perfluoroanthracen-1-yl) (perfluoropyrenyl) (perfluorobiphenyl) (perfluorophenyl)borate]⁻/ dimethylsilyl bis(2-methyl-4-phenyl-indenyl) hafnium dimethyl; [tri-t-butyl-ammonium]⁺[(6-{di-(isopropyl)benzylsiloxy}-perfluoroanthracen-2-yl) (pentafluoroanthracenyl) (4,5,7-trifluoronaphthyl) (4,5,6,7-tetrafluoronaphthyl)borate]⁻/ dimethylsilyl bis(2-methyl-4-naphth-2-yl-indenyl) hafnium dimethyl; [tri-t-butyl-ammonium]⁺[(6-{isopropyloctylisopropylsiloxy}perfluoronaphth-1-yl)bis(perfluorophenyl) (perfluorobiphenyl)borate]⁻/ diphenylmethylenē(cyclopentadienyl) (2,7-methyl-fluorenyl) hafnium dimethyl; [tri-t-butyl-ammonium]⁺[(6-{tri-(isopropyl)siloxy}-perfluorofluoren-2-yl)bis(perfluorobiphenyl) (4,5,7-trifluoronaphthyl)borate]⁻/ di(4-n-butylphenyl)methylene (2,7-di-t-butyl fluorenyl) (indenyl) hafnium dimethyl; [tri-t-butyl-ammonium]⁺[(7-{tri-(isopropyl)siloxy}perfluoroanthracen-1-yl) (4,5,7-trifluoronaphthyl) (perfluoropyrenyl) (perfluorophenyl)borate]⁻/ diphenylmethyl (fluorenyl) (cyclopentadienyl) zirconium dimethyl; [tri-t-butyl-ammonium]⁺[(7-{tri-(isopropyl)siloxy}perfluorofluoren-1-yl) (perfluorobiphenyl) (perfluoronaphthyl) (pentafluoropyrenyl)borate]⁻/ diphenylmethyl (fluorenyl) (cyclopentadienyl) zirconium dimethyl; [tri-t-butyl-ammonium]⁺[(7-{tri-(isopropyl)siloxy}perfluoropyren-1-yl) (perfluorobiphenyl) (2,3,6-trifluorophenyl) (2',3',5'-trifluorobiphenyl)aluminate]⁻/ di(4-n-propylphenyl)methylene (2,7-di-t-butyl-5-methylfluorenyl) (fluorenyl) hafnium dimethyl; [tri-t-butyl-phosphonium]⁺[(2'-{tri-(isopropyl)siloxy}-perfluorobiphen-4-yl) (2',3',5'-trifluorobiphenyl) (4,5,6-trifluoronaphthyl)

(perfluorophenyl)aluminate]⁻/ diphenylmethylene(cyclopentadienyl) (2,7-methyl-fluorenyl) hafnium dimethyl; [tri-*t*-butyl-phosphonium]⁺[(4-{isopropyl(tri-*n*-propylsilylhexyl)isopropylsiloxy}perfluorophenyl)bis(5,6,7,8-tetrafluoronaphthyl) (perfluorobiphenylborate)]⁻/ dimethylsilyl bis(naphthylmethylindenyl) hafnium dimethyl; [tri-*t*-butyl-phosphonium]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaphth-2-yl) (perfluorophenyl) (perfluoropyrenyl) (4,5,6-trifluoronaphthyl)aluminate]⁻/ dimethylsilyl(tetramethylcyclopentadienyl) (dodecylamido) hafnium dihydride; [tri-*t*-butyl-phosphonium]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaphth-3-yl) (2,3,5-trifluorophenyl) (5,6,7,8-tetrafluoronaphthyl) (perfluorobiphenyl)borate]⁻/ dimethylsilyl (indenyl) (fluorenyl) hafnium dihydride; [tri-*t*-butyl-phosphonium]⁺[(6-{di-(isopropyl)ethylsiloxy}perfluoronaphth-2-yl) (2',3',5'-trifluorobiphenyl) (perfluorobiphenyl) (5,6,7,8-tetrafluoronaphthyl)borate]⁻/ dimethylsilylbis(2-methylbenzindenyl) zirconium dimethyl; [tri-*t*-butyl-phosphonium]⁺[(6-{di-(isopropyl)ethylsiloxy}perfluoronaphth-2-yl) (2',3',5'-trifluorobiphenyl) (perfluorobiphenyl) (5,6,7,8-tetrafluoronaphthyl)borate]⁻/ diphenylmethylene (2,7-di-*t*-butyl fluorenyl) (fluorenyl) hafnium dimethyl; [tri-*t*-butyl-phosphonium]⁺[(7-{tri-(isopropyl)siloxy}perfluorofluoren-2-yl) (perfluorophenyl) (2,3,4-trifluorophenyl) (perfluorobiphenyl)aluminate]⁻/ diphenylmethylene (cyclopentadienyl) (2,7-dimethyl fluorenyl) hafnium dimethyl; [tri-*t*-butyl-phosphonium]⁺[(7-{tri-(isopropyl)siloxy}perfluoronaphth-1-yl)bis(perfluorophenyl) (pentafluoroanthracenyl)borate]⁻/ bis(4-(triethylsilyl)phenyl)methylene(cyclopentadienyl) (fluorenyl)hafnium dimethyl; [trityl]⁺[(2'-isopropyl(triethylsilylhexyl)cyclohexylsiloxy}perfluorobiphen-4-yl) (4,5,7-trifluoronaphthyl) (perfluorofluorenyl) (perfluorophenyl)borate]⁻/ (4-*n*-propylphenyl) (4-isopropylphenyl)silylenebis(fluorenyl) hafnium di-*t*-butyl; [trityl]⁺[(2'-isopropyl(triethylsilylhexyl)isopropylsiloxy}fluorobiphen-4-yl) (perfluoronaphthyl) (perfluoropyrenyl) (perfluorobiphenyl)borate]⁻/ dimethylsilyl bis(phenylmethylindenyl) hafnium dimethyl; [trityl]⁺[(2'-isopropyl(triethylsilylhexyl)isopropylsiloxy}fluorobiphen-4-yl) (perfluoronaphthyl) (perfluoropyrenyl) (perfluorobiphenyl)borate]⁻/ diphenylmethylene(cyclopentadienyl) (2,7-methyl-fluorenyl) hafnium dimethyl; [trityl]⁺[(2'-isopropyl(trimethylsilylethyl) (2,2-dimethyloctyl)siloxy}perfluorobiphen-4-yl) (4,5,6,7-tetrafluoronaphthyl) (perfluoropyrenyl) (perfluorophenyl)borate]⁻/ (4-*n*-propylphenyl) (4-methylphenyl)methylene(fluorenyl) (indenyl) hafnium dimethyl; [trityl]⁺[(2'-isopropyl(trimethylsilylethyl) (2,2-dimethyloctyl)siloxy}perfluorobiphen-4-yl) (4,5,6,7-tetrafluoronaphthyl) (perfluoropyrenyl) (perfluorophenyl)borate]⁻/ (tetramethyl-cyclopentadienyl) (*n*-propylcyclopentadienyl) zirconium dimethyl; [trityl]⁺[(2'-

{isopropyl(trimethylsilyl)ethyl} (2,2-dimethyloctyl)siloxy}perfluorobiphen-4-yl) (4,5,6,7-tetrafluoronaphthyl) (perfluoropyrenyl) (perfluorophenyl)borate]⁻/ isopropyl (cyclopentadienyl) (fluorenyl) hafnium dimethyl; [trityl]⁺[(2'-{tri-(isopropyl)siloxy}perfluorobiphen-4-yl) (perfluorobiphenyl) (4,5,7-trifluoronaphthyl) (perfluorophenyl)borate]⁻/ bis(trimethylsilyl) titanium dimethyl; [trityl]⁺[(2'-{tri-(isopropyl)siloxy}perfluorobiphen-4-yl) (perfluorobiphenyl) (4,5,7-trifluoronaphthyl) (perfluorophenyl)borate]⁻/ di(4-n-propylphenyl)methylene (2,7-di-t-butyl-5-methylfluorenyl) (fluorenyl) hafnium dimethyl; [trityl]⁺[(2'-{tri-(isopropyl)siloxy}-perfluorobiphen-4-yl) (perfluorobiphenyl) (perfluorophenyl) (4,5,6-trifluoronaphthyl)borate]⁻/ (tetramethyl-cyclopentadienyl) (n-propylcyclopentadienyl) zirconium dimethyl; [trityl]⁺[(2'-{tri-(isopropyl)siloxy}perfluorobiphen-4-yl)bis(5,6,7,8-tetrafluoronaphthyl) (pentafluoroanthracenyl)borate]⁻/ bis(4-(triethylsilyl)phenyl)methylene(cyclopentadienyl) (2,7-di-t-butyl-fluorenyl)hafnium dimethyl; [trityl]⁺[(2'-{tri-(isopropyl)siloxy}perfluorobiphen-4-yl)bis(perfluoropyrenyl) (perfluorofluorenyl)borate]⁻/ (tetramethyl-cyclopentadienyl) (n-propylcyclopentadienyl) zirconium dimethyl; [trityl]⁺[(3'-{ (3-ethylnonyl) (t-butyl) (triethylsilyl)ethyl)siloxy}perfluorobiphen-4-yl) (perfluorophenyl) (2,3,6-trifluorophenyl) (perfluorobiphenyl)aluminate]⁻/ dimethylsilyl (tetramethylcyclopentadienyl) (t-butylamino) titanium dimethyl; [trityl]⁺[(3'-{(triethylsilyl)propyl)hexylisopropylsiloxy}perfluorophenyl) (perfluorophenyl) (2,3,4-trifluorophenyl) (perfluoronaphthyl)aluminate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene (2,7-di-t-butyl-fluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(3'-{(triethylsilyl)propyl)hexylisopropylsiloxy}perfluorophenyl) (perfluorophenyl) (2,3,4-trifluorophenyl) (perfluoronaphthyl)aluminate]⁻/ dimethylsilyl (indenyl) (fluorenyl) hafnium dihydride; [trityl]⁺[(3'-{(methyldiethylsilyloctyl)isopropyl(t-butyl)siloxy}fluorophenyl) (perfluorobiphenyl) (perfluorophenyl) (4,5,7-trifluoronaphthyl)borate]⁻/ bis(trimethylsilyl) titanium dimethyl; [trityl]⁺[(3'-{(methyldiethylsilyloctyl)isopropyl(t-butyl)siloxy}fluorophenyl) (perfluorobiphenyl) (perfluorophenyl) (4,5,7-trifluoronaphthyl)borate]⁻/ dimethylsilyl-bisindenyl hafnium dimethyl; [trityl]⁺[(3'-{(methyldiethylsilyloctyl)isopropyl(t-butyl)siloxy}fluorophenyl) (perfluorobiphenyl) (perfluorophenyl) (4,5,7-trifluoronaphthyl)borate]⁻/ pentamethylcyclopentadienyl titanium trimethyl; [trityl]⁺[(3'-{(triethylsilyl)ethyl)isopropyl(methyldiethylsilyloctyl)siloxy}perfluorophenyl) (tetrafluorofluorenyl) (perfluoropyrenyl) (perfluorophenyl)aluminate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene (2,7-di-t-butyl-fluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(3'-{benzyl(trimethylsilyl)ethyl)isopropylsiloxy}perfluorobiphen-4-yl)bis(perfluorophenyl) (perfluorofluorenyl)aluminate]⁻/ (4-n-propylphenyl) (4-isopropylphenyl)methylene (fluorenyl)

(cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(3-{benzylnonylisopropylsiloxy}perfluorophenyl) (perfluorophenyl) (pentafluoropyrenyl) (2,3,6-trifluorophenyl)aluminate]⁻/ dimethylsilyl bis(2-propyl-indenyl) hafnium dimethyl; [trityl]⁺[(3-{benzylnonylisopropylsiloxy}perfluorophenyl) (perfluorophenyl) (pentafluoropyrenyl) (2,3,6-trifluorophenyl)aluminate]⁻/ diphenylmethylen (2,7-di-n-butyl fluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(3-{benzylnonylisopropylsiloxy}perfluorophenyl) (perfluorophenyl) (pentafluoropyrenyl) (2,3,6-trifluorophenyl)aluminate]⁻/ diphenylmethylen (2,7-di-t-butyl-5-methylfluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(3-{di-((methyldiethylsilyloctyl))cyclohexylsiloxy}-perfluorophenyl) (perfluorobiphenyl) (perfluorofluorenyl) (4,5,7-trifluoronaphthyl)borate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene (2,7-di-t-butyl-fluorenyl) (indenyl) hafnium dimethyl; [trityl]⁺[(3-{di-((methyldiethylsilyloctyl))cyclohexylsiloxy}perfluorophenyl) (perfluorobiphenyl) (perfluorofluorenyl) (4,5,7-trifluoronaphthyl)borate]⁻/ di(4-n-butylphenyl)methylene (2,7-di-t-butyl fluorenyl) (indenyl) hafnium dimethyl; [trityl]⁺[(3'-{isopropyl(triethylsilylethyl)isopropylsiloxy}perfluorobiphen-4-yl) (perfluoroanthracenyl) (tetrafluorofluorenyl) (perfluorobiphenyl)aluminate]⁻/ diphenylmethylen (cyclopentadienyl) (2,7-di-t-butyl fluorenyl) hafnium dimethyl; [trityl]⁺[(3'-{isopropyl(triethylsilylethyl)isopropylsiloxy}perfluorobiphen-4-yl) (perfluoroanthracenyl) (tetrafluorofluorenyl) (perfluorobiphenyl)aluminate]⁻/ methylphenylmethylen bis(fluorenyl) hafnium dimethyl; [trityl]⁺[(3-{isopropylloctyl(triethylsilylethyl)siloxy}perfluorophenyl) (perfluoroanthracenyl) (perfluorofluorenyl) (perfluorophenyl)borate]⁻/diphenylmethylen (2,7-di-t-butyl fluorenyl) (fluorenyl) hafnium dimethyl; [trityl]⁺[(3'-{tri-(isopropyl)siloxy}fluorobiphen-4-yl) (pentafluoroanthracenyl) (perfluorofluorenyl) (perfluoronaphthyl)aluminate]⁻/ diphenylmethylen (cyclopentadienyl) (2,7-di-t-butyl fluorenyl) hafnium dimethyl; [trityl]⁺[(3-{tri-(isopropyl)siloxy}fluorophenyl) (perfluorofluorenyl) (tetrafluorofluorenyl) (perfluorophenyl)borate]⁻/ (4-n-propylphenyl) (4-methylphenyl)methylene(fluorenyl) (indenyl) hafnium dimethyl; [trityl]⁺[(3-{tri-(isopropyl)siloxy}fluorophenyl) (perfluorofluorenyl) (tetrafluorofluorenyl) (perfluorophenyl)borate]⁻/ (pentamethylcyclopentadienyl) (cyclopentadienyl)zirconium dimethyl; [trityl]⁺[(3-{tri-(isopropyl)siloxy}fluorophenyl) (perfluorofluorenyl) (tetrafluorofluorenyl) (perfluorophenyl)borate]⁻/ diphenylmethylen (2,7-di-t-butyl-5-methylfluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(3-{tri-(isopropyl)siloxy}fluorophenyl) (perfluorophenyl) (tetrafluorofluorenyl) (perfluoroanthracenyl)borate]⁻/ bis(4-(triethylsilyl)phenyl)methylene(cyclopentadienyl) (fluorenyl)hafnium dimethyl; [trityl]⁺[(3'-{tri-(isopropyl)siloxy}perfluorobiphen-4-yl)

(perfluorophenyl) (perfluorobiphenyl) (pentafluoroanthracenyl)borate]⁻
 (tetramethyl-cyclopentadienyl) (n-propylcyclopentadienyl) zirconium dimethyl; [trityl]⁺[(3'-{tri-
 (isopropyl)siloxy}perfluorobiphen-4-yl) (tetrafluorofluorenyl) (4,5,6,7-tetrafluoronaphthyl)
 (perfluorobiphenyl)borate]⁻ dimethylsilyl bisindenyl hafnium dimethyl; [trityl]⁺[(3'-{tri-
 (isopropyl)siloxy}perfluorobiphen-4-yl)bis(pentafluoropyrenyl) (perfluorophenyl)borate]⁻
 (tetramethyl-cyclopentadienyl) (n-propylcyclopentadienyl) zirconium dimethyl; [trityl]⁺[(3'-{tri-
 (isopropyl)siloxy}perfluorobiphen-4-yl)bis(pentafluoropyrenyl) (perfluorophenyl)borate]⁻
 dimethylsilyl bis(2-methyl-4-phenyl-indenyl) hafnium dimethyl; [trityl]⁺[(3'-{tri-
 (isopropyl)siloxy}perfluorobiphen-4-yl)bis(pentafluoropyrenyl) (perfluorophenyl)borate]⁻
 dimethylsilyl bis(2-propyl-indenyl) hafnium dimethyl; [trityl]⁺[(3'-{tri-(isopropyl)siloxy}-
 perfluorobiphen-4-yl)bis(perfluorobiphenyl) (perfluorophenyl)borate]⁻ bis(4-
 (triethylsilyl)phenyl)methylene(cyclopentadienyl) (2,7-di-t-butyl-fluorenyl)hafnium dimethyl;
 [trityl]⁺[(3'-{tri-(isopropyl)siloxy}perfluorobiphen-4-yl)bis(perfluorobiphenyl)
 (perfluorophenyl)borate]⁻ dimethylsilyl(tetramethylcyclopentadienyl) (tert-butylamido) titanium
 dichloride; [trityl]⁺[(3'-{tri-(isopropyl)siloxy}perfluorophenyl) (perfluorofluorenyl)
 (perfluorophenyl) (2,3,6-trifluorophenyl)borate]⁻ methylene (2,7-di-t-butyl fluorenyl) (fluorenyl)
 hafnium dimethyl; [trityl]⁺[(3'-{tri-(isopropyl)siloxy}perfluorophenyl) (perfluoronaphthyl)
 (perfluorophenyl) (pentafluoroanthracenyl)borate]⁻ dimethylsilyl bis(2-methyl-4-phenyl-
 indenyl) hafnium dimethyl; [trityl]⁺[(4'-{ (3-ethylnonyl) (tri-(isopropyl)silyloctyl)isopropylsiloxy}-
 fluorobiphen-3-yl)bis(perfluorophenyl) (perfluoropyrenyl)borate]⁻
 (tetramethyl-cyclopentadienyl) (n-propylcyclopentadienyl) zirconium dimethyl; [trityl]⁺[(4'-{ (3-
 ethylnonyl) (tri-(isopropyl)silyloctyl)isopropylsiloxy}fluorobiphen-3-yl)bis(perfluorophenyl)
 (perfluoropyrenyl)borate]⁻ methylene (2,7-di-t-butyl fluorenyl) (fluorenyl) hafnium dimethyl;
 [trityl]⁺[(4'-{ (3-ethylnonyl)benzylisopropylsiloxy}perfluorophenyl) (2',3',5'-trifluorobiphenyl)
 (5,6,7,8-tetrafluoronaphthyl) (2,3,5-trifluorophenyl)aluminate]⁻
 dimethylsilyl(tetramethylcyclopentadienyl) (dodecylamido) hafnium dihydride; [trityl]⁺[(4'-{ (3-
 ethylnonyl)benzylisopropylsiloxy}perfluorophenyl) (2',3',5'-trifluorobiphenyl) (5,6,7,8-
 tetrafluoronaphthyl) (2,3,5-trifluorophenyl)aluminate]⁻ diphenylmethylene (2,7-di-t-butyl-5-
 methylfluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(4'-{
 triethylsilylpropyl)isopropyl(triethylsilylmethyl)siloxy}perfluorophenyl)bis(perfluorophenyl)
 (perfluorobiphenyl)borate]⁻ dimethylsilyl(tetramethylcyclopentadienyl) (dodecylamido)
 hafnium dimethyl; [trityl]⁺[(4'-{(t-butyl) (2,2-dimethyloctyl) (t-butyl)siloxy}perfluorobiphen-3-

yl)bis(2,3,4-trifluorophenyl) (perfluoropyrenyl)borate]⁻/ bis(4-(triethylsilyl)phenyl)methylene(cyclopentadienyl) (2,7-di-t-butyl-fluorenyl)hafnium dimethyl; [trityl]⁺[(4-{(t-butyl)isopropyl(triethylsilylhexyl)siloxy}perfluorophenyl) (2,3,6-trifluorophenyl) (perfluorophenyl) (perfluorobiphenyl)borate]⁻/ diphenylmethylene(cyclopentadienyl) (fluorenyl) hafnium dimethyl; [trityl]⁺[(4-{(triethylsilylethyl) (trimethylsilylethyl)benzylsiloxy}-perfluorophenyl)bis(perfluorofluorenyl) (perfluorophenyl)borate]⁻/ diphenylmethylene(cyclopentadienyl) (2,7-di-t-butyl-fluorenyl) hafnium dimethyl; [trityl]⁺[(4-{benzylononyl(methyldiethylsilyloctyl)siloxy}perfluorophenyl) (2,3,6-trifluorophenyl) (2,3,4-trifluorophenyl) (2',3',5'-trifluorobiphenyl)borate]⁻/ (4-n-propylphenyl) (4-methylphenyl)methylene(fluorenyl) (indenyl) hafnium dimethyl; [trityl]⁺[(4-{di-(isopropyl) (trimethylsilylethyl)siloxy}perfluorobiphen-4-yl) (perfluorofluorenyl) (perfluoronaphthyl) (perfluorophenyl)borate]⁻/ diphenylmethylene (indenyl) (2,7-di-t-butyl fluorenyl) hafnium dibenzyl; [trityl]⁺[(4-{di-(isopropyl) (trimethylsilylethyl)siloxy}perfluorobiphen-4-yl) (perfluorofluorenyl) (perfluoronaphthyl) (perfluorophenyl)borate]⁻/ silacyclobutyl(tetramethylcyclopentadienyl) (n-propylcyclopentadienyl) zirconium dimethyl; [trityl]⁺[(4-{hexylisopropyl(tri-(isopropyl)silyloctyl)siloxy}perfluorophenyl) (pentafluoroanthracenyl) (perfluorofluorenyl) (perfluorobiphenyl)borate]⁻/ bis(trimethylsilyl) titanium dimethyl; [trityl]⁺[(4-{hexylisopropyl(tri-(isopropyl)silyloctyl)siloxy}perfluorophenyl) (pentafluoroanthracenyl) (perfluorofluorenyl) (perfluorobiphenyl)borate]⁻/ di(4-n-propylphenyl)methylene (2,7-di-t-butyl-5-methylfluorenyl) (fluorenyl) hafnium dimethyl; [trityl]⁺[(4-{isopropyl(methyldiethylsilyloctyl)nonylsiloxy}perfluorophenyl)bis(perfluorophenyl) (perfluorobiphenyl)borate]⁻/ (4-n-propylphenyl) (4-isopropylphenyl)silylenebis(fluorenyl) hafnium di-t-butyl; [trityl]⁺[(4-{isopropyl(triethylsilylethyl) (triethylsilylhexyl)siloxy}-perfluorophenyl) (2,3,5-trifluorophenyl) (perfluoroanthracenyl) (perfluorophenyl)borate]⁻/ (tetramethyl-cyclopentadienyl) (n-propylcyclopentadienyl) zirconium dimethyl; [trityl]⁺[(4-{tri-(isopropyl)siloxy}perfluorobiphen-3-yl)bis(perfluorobiphenyl) (perfluorophenyl)borate]⁻/ (4-n-propylphenyl) (4-isopropylphenyl)methylene (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(4-{tri-(isopropyl)siloxy}perfluorobiphen-3-yl)bis(perfluorophenyl) (perfluoroanthracenyl)aluminate]⁻/ methylene (2,7-di-t-butyl fluorenyl) (fluorenyl) hafnium dimethyl; [trityl]⁺[(4-{tri-(isopropyl)siloxy}perfluorobiphen-4-yl) (pentafluoroanthracenyl) (4,5,6-trifluoronaphthyl) (perfluorobiphenyl)aluminate]⁻/ dimethylsilyl (tetramethylcyclopentadienyl) (adamanty-1-amino) titanium dimethyl; [trityl]⁺[(4-{tri-

(isopropyl)siloxy}perfluorophenyl) (2',3',4'-trifluorobiphenyl) (4,5,6-trifluoronaphthyl) (perfluorophenyl)borate]⁻/ di(4-n-propylphenyl)methylene (2,7-di-t-butyl-5-methylfluorenyl) (fluorenyl) hafnium dimethyl; [trityl]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl) (2,3,5-trifluorophenyl) (2',3',4'-trifluorobiphenyl) (2,3,6-trifluorophenyl)borate]⁻/ dibutylsilyl (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl) (2,3,5-trifluorophenyl) (perfluoropyrenyl) (perfluorophenyl)borate]⁻/ dimethylsilyl (tetramethylcyclopentadienyl) (adamantyl-1-amino) titanium dimethyl; [trityl]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl) (pentafluoropyrenyl) (perfluorobiphenyl) (perfluorophenyl)borate]⁻/ dimethylsilylbis(tetrahydroindenyl) zirconium dichloride; [trityl]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl) (perfluorobiphenyl) (2',3',5'-trifluorobiphenyl) (pentafluoroanthracenyl)aluminate]⁻/ dimethylsilyl bis(2-methyl-indenyl) hafnium dimethyl; [trityl]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl) (perfluorobiphenyl) (perfluorophenyl) (perfluorofluorenyl)borate]⁻/ diphenylmethyl (cyclopentadienyl) (2,7-dimethylfluorenyl) hafnium dimethyl; [trityl]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl) (perfluorobiphenyl) (perfluorophenyl) (perfluorofluorenyl)borate]⁻/ methylphenylmethylene bis(fluorenyl) hafnium dimethyl; [trityl]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl) (perfluoronaphthyl) (perfluorophenyl) (4,5,6,7-tetrafluoronaphthyl)borate]⁻/ (pentamethylcyclopentadienyl) (cyclopentadienyl)zirconium dimethyl; [trityl]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl) (perfluorophenyl) (perfluorobiphenyl) (2,3,5-trifluorophenyl)borate]⁻/ dimethylsilyl (tetramethylcyclopentadienyl) (t-butylamino) titanium dimethyl; [trityl]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl) (perfluoropyrenyl) (perfluorophenyl) (perfluorobiphenyl)borate]⁻/ dimethylsilyl(tetramethylcyclopentadienyl) (dodecylamido) hafnium dihydride; [trityl]⁺[(4-{tri-(isopropyl)siloxy}perfluorophenyl)bis(perfluoroanthracenyl) (pentafluoroanthracenyl)borate]⁻/ di(4-n-butylphenyl)methylene (2,7-di-t-butyl fluorenyl) (indenyl) hafnium dimethyl; [trityl]⁺[(4-{tri-(isopropyl)siloxy}-perfluorophenyl)bis(perfluorobiphenyl) (tetrafluorofluorenyl)borate]⁻/ (4-n-propylphenyl) (4-methylphenyl)methylene(fluorenyl) (indenyl) hafnium dimethyl; [trityl]⁺[(5-{(3-ethylnonyl) (methyldiethylsilyloctyl)isopropylsiloxy}fluoroinden-1-yl) (perfluorophenyl) (perfluorobiphenyl) (5,6,7,8-tetrafluoronaphthyl)aluminate]⁻/ bis(4-(triethylsilyl)phenyl)methylene(cyclopentadienyl) (2,7-di-t-butyl-fluorenyl)hafnium dimethyl; [trityl]⁺[(5-{(2,2-dimethyloctyl) (triethylsilylethyl) (2,2-dimethyloctyl)siloxy}perfluoroinden-1-yl) (perfluorophenyl) (perfluoroanthracenyl) (4,5,6-trifluoronaphthyl)borate]⁻/ pentamethyl cyclopentadienyl titanium isopropoxide; [trityl]⁺[(5-{(methyldiethylsilyloctyl)hexyl (3-

ethyl)nonyl)siloxy}perfluoronaph-1-yl) (perfluorophenyl) (2',3',4'-trifluorobiphenyl)
 (perfluoropyrenyl)borate]⁻/ diphenylmethane (cyclopentadienyl) (2,7-di-*t*-butyl fluorenyl)
 hafnium dimethyl; [trityl]⁺[(5-((*t*-butyl)isopropylcyclohexyl)siloxy}perfluoronaphth-3-
 yl)bis(perfluorophenyl) (2,3,6-trifluorophenyl)borate]⁻/ bis(1,3-dibutyl-methyl-cyclopentadienyl)
 zirconium dimethyl; [trityl]⁺[(5-((*t*-butyl)octylisopropyl)siloxy}perfluoronaph-1-yl)bis(2,3,5-
 trifluorophenyl) (pentafluoroanthracenyl)borate]⁻/ (4-*n*-butylphenyl) (4-*t*-butylphenyl)methylene
 (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(5-((*t*-butyl)octylisopropyl)siloxy}-
 perfluoronaph-1-yl)bis(2,3,5-trifluorophenyl) (pentafluoroanthracenyl)borate]⁻/ dimethylsilyl
 (indenyl) (fluorenyl) hafnium dihydride; [trityl]⁺[(5-((tri-(isopropyl)silyloctyl) (3-ethylnonyl) (2,2-
 dimethyloctyl)siloxy}perfluoroinden-1-yl) (perfluorophenyl) (perfluoropyrenyl)
 (perfluorofluorenyl)borate]⁻/ bis(4-triethylsilylphenyl)methylene(cyclopentadienyl)
 (fluorenyl)hafnium dimethyl; [trityl]⁺[(5-((tri-(isopropyl)silyloctyl) (3-ethylnonyl) (2,2-
 dimethyloctyl)siloxy}perfluoronaph-1-yl) (perfluorophenyl) (4,5,7-trifluoronaphthyl)
 (tetrafluorofluorenyl)aluminate]⁻/ (4-*n*-propylphenyl) (4-methylphenyl)methylene(fluorenyl)
 (indenyl) hafnium dimethyl; [trityl]⁺[(5-((tri-(isopropyl)silyloctyl) (3-ethylnonyl) (2,2-
 dimethyloctyl)siloxy}perfluoronaph-1-yl) (perfluorophenyl) (4,5,7-trifluoronaphthyl)
 (tetrafluorofluorenyl)aluminate]⁻/ dimethylsilyl (bisindenyl) zirconium dichloride; [trityl]⁺[(5-
 ((tri-(isopropyl)silyloctyl) (3-ethylnonyl) (2,2-dimethyloctyl)siloxy}perfluoronaph-1-yl)
 (perfluorophenyl) (4,5,7-trifluoronaphthyl) (tetrafluorofluorenyl)aluminate]⁻/
 diphenylmethane(cyclopentadienyl) (fluorenyl) hafnium dimethyl; [trityl]⁺[(5-
 ((triethylsilylethyl) (tri-(isopropyl)silyloctyl)isopropyl)siloxy}fluoroinden-1-yl) (perfluorofluorenyl)
 (perfluorophenyl) (perfluoroanthracenyl)borate]⁻/ (4-*n*-propylphenyl) (4-
 methylphenyl)methylene(fluorenyl) (indenyl) hafnium dimethyl; [trityl]⁺[(5-((triethylsilylethyl)
 (triethylsilylhexyl)isopropyl)siloxy}perfluoroinden-1-yl)tris(perfluoroanthracenyl)borate]⁻/
 diphenylmethane (cyclopentadienyl) (2,7-dimethyl fluorenyl) hafnium dimethyl; [trityl]⁺[(5-
 ((triethylsilylethyl) (triethylsilylhexyl)isopropyl)siloxy}perfluoroinden-1-
 yl)tris(perfluoroanthracenyl)borate]⁻/ isopropyl (cyclopentadienyl) (fluorenyl) hafnium
 dimethyl; [trityl]⁺[(5-((triethylsilylethyl)hexylisopropyl)siloxy}perfluoronaph-3-yl)
 (pentafluoroanthracenyl) (2,3,5-trifluorophenyl) (perfluoroanthracenyl)borate]⁻/
 pentamethylcyclopentadienyl titanium trimethyl; [trityl]⁺[(5-((triethylsilylmethyl)isopropyl(2,2-
 dimethyloctyl)siloxy}perfluoronaph-2-yl)bis(perfluorophenyl) (5,6,7,8-
 tetrafluoronaphthyl)aluminate]⁻/ bis(trimethylsilyl) titanium dimethyl; [trityl]⁺[(5-
 ((trimethylsilylethyl) (2,2-dimethyloctyl)isopropyl)siloxy}perfluoronaph-3-yl) (4,5,6-

trifluoronaphthyl) (perfluoropyrenyl) (perfluorobiphenyl)aluminate]⁻/ diphenylmethylen
(indenyl) (2,7-di-t-butyl fluorenyl) hafnium dibenzyl; [trityl]⁺[(5-{(tri-n-propylsilylhexyl)
(methyldiethylsilyloctyl)isopropylsiloxy}perfluoronaph-3-yl) (2',3',4'-trifluorobiphenyl)
(perfluorophenyl) (perfluorobiphenyl)borate]⁻/ dimethylsilylbis(2-methylbenzindenyl) zirconium
dimethyl; [trityl]⁺[(5-{(tri-n-propylsilylhexyl)isopropyl(triethylsilylpropyl)siloxy}perfluoronaph-
1-yl)bis(pentafluoroanthracenyl) (perfluoronaphthyl)borate]⁻/ dimethylsilyl (bisindenyl)
zirconium dichloride; [trityl]⁺[(5-{(tri-n-propylsilylhexyl)isopropyl(triethylsilylpropyl)siloxy}-
perfluoronaph-1-yl)bis(pentafluoroanthracenyl) (perfluoronaphthyl)borate]⁻/
dimethylsilyl(tetramethylcyclopentadienyl) (tert-butylamido) titanium dichloride; [trityl]⁺[(5-
{benzylisopropylhexylsiloxy}perfluoroinden-1-yl) (pentafluoroanthracenyl) (perfluorofluorenyl)
(4,5,7-trifluoronaphthyl)borate]⁻/ diphenylmethylen (indenyl) (2,7-di-t-butyl fluorenyl) hafnium
dibenzyl; [trityl]⁺[(5-{benzylisopropylhexylsiloxy}perfluoroinden-1-yl) (pentafluoroanthracenyl)
(perfluorofluorenyl) (4,5,7-trifluoronaphthyl)borate]⁻/ diphenylmethylen(cyclopentadienyl)
(fluorenyl) hafnium dimethyl; [trityl]⁺[(5-{benzylononyl(methyldiethylsilyloctyl)siloxy}-
fluoronaph-1-yl)tris(perfluorophenyl)borate]⁻/ diphenylmethylen (cyclopentadienyl) (2,7-di-t-
butyl fluorenyl) hafnium dimethyl; [trityl]⁺[(5-{benzylononyl(methyldiethylsilyloctyl)siloxy}-
fluoronaph-1-yl)tris(perfluorophenyl)borate]⁻/ methylene bis(fluorenyl) hafnium dimethyl;
[trityl]⁺[(5-{di-((methyldiethylsilyloctyl)cyclohexylsiloxy}perfluoroinden-1-yl) (perfluorophenyl)
(5,6,7,8-tetrafluoronaphthyl) (2,3,4-trifluorophenyl)borate]⁻/ diphenylmethylen (2,7-di-t-butyl-
5-methylfluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(5-
{hexyl(methyldiethylsilyloctyl)isopropylsiloxy}perfluoronaph-1-yl) (perfluorobiphenyl)
(tetrafluorofluorenyl) (perfluoroanthracenyl)aluminate]⁻/ dimethylsilyl (indenyl) (fluorenyl)
hafnium dihydride; [trityl]⁺[(5-{hexylisopropylononylsiloxy}fluoroinden-2-yl) (perfluorobiphenyl)
(4,5,6,7-tetrafluoronaphthyl) (perfluorophenyl)aluminate]⁻/ (4-n-butylphenyl) (4-t-
butylphenyl)methylene(2,7-dimethyl-fluorenyl) (indenyl) hafnium dibenzyl; [trityl]⁺[(5-
{isopropyl(t-butyl)cyclohexylsiloxy}perfluoroinden-1-yl) (perfluoroanthracenyl)
(perfluorophenyl) (pentafluoroanthracenyl)borate]⁻/ dinaphthylmethylen (cyclopentadienyl)
(fluorenyl) hafnium dimethyl; [trityl]⁺[(5-{isopropyl(t-butyl)nonylsiloxy}perfluoronaph-2-yl)
(pentafluoropyrenyl) (perfluorophenyl) (4,5,7-trifluoronaphthyl)borate]⁻/
diphenylmethylen(cyclopentadienyl) (fluorenyl) hafnium dimethyl; [trityl]⁺[(5-{isopropyl(tri-
isopropyl)silyloctyl) (3-ethylononyl)siloxy}perfluoroinden-2-yl) (perfluoronaphthyl)
(perfluorobiphenyl) (4,5,7-trifluoronaphthyl)aluminate]⁻/ methylene (2,7-di-t-butyl fluorenyl)
(fluorenyl) hafnium dimethyl; [trityl]⁺[(5-{isopropyl(triethylsilylhexyl) (2,2-dimethyloctyl)siloxy}-

perfluoronaphth-1-yl) (perfluorobiphenyl) (perfluorophenyl) (2,3,6-trifluorophenyl)borate]⁻/ di(4-n-butylphenyl)methylene (2,7-di-t-butyl fluorenyl) (indenyl) hafnium dimethyl; [trityl]⁺[(5-{isopropylbenzyl}nonyl)siloxy]perfluoronaphth-1-yl) (perfluorobiphenyl) (perfluoroanthracenyl) (4,5,6,7-tetrafluoronaphthyl)borate]⁻/ diphenylmethyl (cyclopentadienyl) (2,7-di-t-butyl-fluorenyl) hafnium dimethyl; [trityl]⁺[(5-{isopropylcyclohexyl (3-ethylnonyl)siloxy}-perfluoroinden-1-yl) (perfluorophenyl) (perfluoroanthracenyl) (perfluoropyrenyl)borate]⁻/ dimethylsilyl(tetramethylcyclopentadienyl) (adamantylamido) titanium dichloride; [trityl]⁺[(5-{nonylisopropyl(tri-n-propylsilylhexyl)siloxy}perfluoroinden-2-yl) (2,3,5-trifluorophenyl) (perfluorophenyl) (2',3',5'-trifluorobiphenyl)borate]⁻/ dimethylsilyl bis(methylindenyl) hafnium dimethyl; [trityl]⁺[(5-{tri-(isopropyl)siloxy}perfluoroinden-1-yl) (pentafluoroanthracenyl) (perfluorobiphenyl) (perfluorophenyl)borate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene (2,7-di-t-butyl-fluorenyl) (indenyl) hafnium dimethyl; [trityl]⁺[(5-{tri-(isopropyl)siloxy}-perfluoroinden-1-yl) (perfluorophenyl) (perfluoroanthracenyl) (2',3',4'-trifluorobiphenyl)aluminate]⁻/ isopropyl (cyclopentadienyl) (fluorenyl) hafnium dimethyl; [trityl]⁺[(5-{tri-(isopropyl)siloxy}perfluoroinden-2-yl) (2',3',4'-trifluorobiphenyl) (perfluorofluorenyl) (perfluorobiphenyl)borate]⁻/ dimethylsilyl-bisindenyl hafnium dimethyl; [trityl]⁺[(5-{tri-(isopropyl)siloxy}perfluoroinden-2-yl) (2,3,4-trifluorophenyl) (perfluoroanthracenyl) (pentafluoropyrenyl)borate]⁻/ di(4-n-propylphenyl)methylene (2,7-di-t-butyl-5-methylfluorenyl) (fluorenyl) hafnium dimethyl; [trityl]⁺[(5-{tri-(isopropyl)siloxy}-perfluoroinden-2-yl) (perfluorophenyl) (2',3',5'-trifluorobiphenyl) (2,3,4-trifluorophenyl)borate]⁻/ dimethylsilyl (bisindenyl) zirconium dichloride; [trityl]⁺[(5-{tri-(isopropyl)siloxy}perfluoroinden-2-yl)bis(perfluorobiphenyl) (perfluorofluorenyl)borate]⁻/ dimethylsilyl bis(phenylmethylindenyl) hafnium dimethyl; [trityl]⁺[(5-{tri-(isopropyl)siloxy}perfluoroinden-2-yl)bis(perfluorophenyl) (perfluorobiphenyl)borate]⁻/ bis(1,3-dibutyl-methyl-cyclopentadienyl) zirconium dimethyl; [trityl]⁺[(5-{tri-(isopropyl)siloxy}perfluoroinden-2-yl)bis(perfluoropyrenyl) (perfluorobiphenyl)borate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene (2,7-di-t-butyl-fluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(5-{tri-(isopropyl)siloxy}perfluoroinden-2-yl)bis(perfluoropyrenyl) (perfluorobiphenyl)borate]⁻/ pentamethyl cyclopentadienyl tribenzyl titanium; [trityl]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaphth-3-yl) (4,5,6-trifluoronaphthyl) (5,6,7,8-tetrafluoronaphthyl) (perfluoroanthracenyl)borate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaphth-1-yl) (perfluorophenyl) (perfluorobiphenyl) (2,3,6-

trifluorophenyl)aluminate]⁻/ (4-n-propylphenyl) (4-isopropylphenyl)methylene (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaphth-1-yl) (perfluorophenyl) (perfluorobiphenyl) (2,3,6-trifluorophenyl)aluminate]⁻/ dimethylsilyl bis(naphthylmethylindenyl) hafnium dimethyl; [trityl]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaphth-1-yl)bis(perfluorophenyl) (pentafluoroanthracenyl)borate]⁻/ diphenylmethylene(cyclopentadienyl) (2,7-methyl-fluorenyl) hafnium dimethyl; [trityl]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaphth-2-yl) (2',3',5'-trifluorobiphenyl) (5,6,7,8-tetrafluoronaphthyl) (2,3,4-trifluorophenyl)aluminate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene (2,7-di-t-butyl-fluorenyl) (indenyl) hafnium dimethyl; [trityl]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaphth-2-yl) (perfluorofluorenyl) (2',3',5'-trifluorobiphenyl) (perfluoropyrenyl)borate]⁻/ methylene (2,7-di-t-butyl fluorenyl) (fluorenyl) hafnium dimethyl; [trityl]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaphth-2-yl) (perfluorophenyl) (perfluorobiphenyl) (2,3,4-trifluorophenyl)aluminate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene(fluorenyl) (indenyl) hafnium dimethyl; [trityl]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaphth-2-yl)bis(perfluorophenyl) (perfluorofluorenyl)borate]⁻/ diphenylmethylene (2,7-di-t-butyl fluorenyl) (fluorenyl) hafnium dimethyl; [trityl]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaphth-3-yl) (pentafluoroanthracenyl) (perfluoropyrenyl) (perfluorobiphenyl)borate]⁻/ dimethylsilyl-bisindenyl hafnium dimethyl; [trityl]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaphth-3-yl) (perfluoronaphthyl) (4,5,6-trifluoronaphthyl) (2',3',5'-trifluorobiphenyl)aluminate]⁻/ (4-n-propylphenyl) (4-methylphenyl)methylene(fluorenyl) (indenyl) hafnium dimethyl; [trityl]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaphth-3-yl) (perfluoronaphthyl) (perfluoroanthracenyl) (perfluorophenyl)aluminate]⁻/ bis(4-(triethylsilyl)phenyl)methylene(cyclopentadienyl) (fluorenyl)hafnium dimethyl; [trityl]⁺[(5-{tri-(isopropyl)siloxy}perfluoronaphth-3-yl) (perfluoronaphthyl) (perfluoroanthracenyl) (perfluorophenyl)aluminate]⁻/ diphenylmethyl (cyclopentadienyl) (2,7-dimethylfluorenyl) hafnium dimethyl; [trityl]⁺[(6-{(3-ethylnonyl)benzylisopropylsiloxy}perfluoroanthracen-1-yl) (2',3',4'-trifluorobiphenyl) (perfluorophenyl) (2,3,5-trifluorophenyl)aluminate]⁻/ diphenylmethylene(cyclopentadienyl) (2,7-di-t-butyl-fluorenyl) hafnium dimethyl; [trityl]⁺[(6-{(3-ethylnonyl)isopropyl(tri-n-propylsilylhexyl)siloxy}perfluoroanthracen-2-yl) (4,5,7-trifluoronaphthyl) (perfluorobiphenyl) (perfluorofluorenyl)aluminate]⁻/ diphenylmethylene (2,7-di-t-butyl-5-methylfluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(6-{(triethylsilylpropyl)benzylisopropylsiloxy}perfluoroanthracen-1-yl)bis(perfluorophenyl) (perfluorobiphenyl)borate]⁻/ diphenylmethylene (cyclopentadienyl) (2,7-di-t-butyl fluorenyl) hafnium dimethyl; [trityl]⁺[(6-{(2,2-dimethyloctyl)isopropyl(triethylsilylethyl)siloxy}]

perfluoroanthracen-1-yl)bis(perfluoroanthracenyl) (4,5,7-trifluoronaphthyl)borate]⁻/

diphenylmethyl (cyclopentadienyl) (2,7-dimethylfluorenyl) hafnium dimethyl; [trityl]⁺[(6-
 {(methyl-diethylsilyloctyl) (triethylsilylpropyl)isopropylsiloxy}fluoroanthracen-1-
 yl)bis(perfluoroanthracenyl) (perfluorophenyl)borate]⁻/ bis(4-
 triethylsilylphenyl)methylene(cyclopentadienyl) (fluorenyl)hafnium dimethyl; [trityl]⁺[(6-
 {(isopropyl)silyloctyl)isopropyl(methyl-diethylsilyloctyl)siloxy}perfluoroanthracen-1-yl)
 (perfluorophenyl) (tetrafluorofluorenyl) (perfluorobiphenyl)aluminate]⁻/

methylphenylmethylene bis(fluorenyl) hafnium dimethyl; [trityl]⁺[(6-
 {(trimethylsilylethyl)isopropyl(triethylsilylpropyl)siloxy}perfluorofluoren-1-yl) (2,3,6-
 trifluorophenyl) (perfluorofluorenyl) (perfluorophenyl)borate]⁻/ di(4-n-propylphenyl)methylene
 (2,7-di-t-butyl-5-methylfluorenyl) (fluorenyl) hafnium dimethyl; [trityl]⁺[(6-
 {(trimethylsilylethyl)isopropyl(triethylsilylpropyl)siloxy}perfluorofluoren-1-yl) (2,3,6-
 trifluorophenyl) (perfluorofluorenyl) (perfluorophenyl)borate]⁻/ dimethylsilyl
 bis(naphthylmethylindenyl) hafnium dimethyl; [trityl]⁺[(6-
 {(trimethylsilylethyl)isopropyl(triethylsilylpropyl)siloxy}perfluorofluoren-1-yl) (2,3,6-trifluorophenyl) (perfluorofluorenyl)
 (perfluorophenyl)borate]⁻/ silacyclobutyl(tetramethylcyclopentadienyl) (n-
 propylcyclopentadienyl) zirconium dimethyl

; [trityl]⁺[(6-
 {(trimethylsilylethyl)isopropyl(trimethylsilylethyl)siloxy}fluoronaph-2-yl)
 (perfluoroanthracenyl) (perfluorophenyl) (5,6,7,8-tetrafluoronaphthyl)aluminate]⁻/ (4-n-
 propylphenyl) (4-isopropylphenyl)silylenebis(fluorenyl) hafnium di-t-butyl; [trityl]⁺[(6-
 {(trimethylsilylethyl)isopropyl(trimethylsilylethyl)siloxy}fluoronaph-2-yl) (perfluoroanthracenyl)
 (perfluorophenyl) (5,6,7,8-tetrafluoronaphthyl)aluminate]⁻/ isopropyl (cyclopentadienyl)
 (fluorenyl) hafnium dimethyl; [trityl]⁺[(6-
 {(tri-n-propylsilylhexyl)isopropyl(tri-
 (isopropyl)silyloctyl)siloxy}perfluoroanthracen-1-yl) (2,3,4-trifluorophenyl) (perfluorobiphenyl)
 (perfluoronaphthyl)borate]⁻/ dimethylsilyl (tetramethylcyclopentadienyl) (adamantyl-1-amino)
 titanium dimethyl; [trityl]⁺[(6-
 {benzylisopropyl(triethylsilylmethyl)siloxy}perfluoronaph-1-yl)
 (perfluorophenyl) (tetrafluorofluorenyl) (2,3,5-trifluorophenyl)borate]⁻/

dimethylsilyl(tetramethylcyclopentadienyl) (adamantylamido) titanium dichloride; [trityl]⁺[(6-
 {cyclohexylisopropyl(tri-(isopropyl)silyloctyl)siloxy}perfluoroanthracen-2-yl)bis(perfluorophenyl)
 (2',3',4'-trifluorobiphenyl)aluminate]⁻/ (4-n-propylphenyl) (4-methylphenyl)methylene(fluorenyl)
 (indenyl) hafnium dimethyl; [trityl]⁺[(6-
 {cyclohexylisopropyl(tri-(isopropyl)silyloctyl)siloxy}-
 perfluoroanthracen-2-yl)bis(perfluorophenyl) (2',3',4'-trifluorobiphenyl)aluminate]⁻/

dinaphthylmethylene (cyclopentadienyl) (fluorenyl) hafnium dimethyl; [trityl]⁺[(6-
 {di-(2,2-

dimethyloctyl))isopropylsiloxy}perfluorofluoren-2-yl) (tetrafluorofluorenyl) (2,3,6-trifluorophenyl) (perfluoronaphthyl)borate]⁻/ dimethylsilyl-bisindenyl hafnium dimethyl; [trityl]⁺[(6-{di-((methyldiethylsilyloctyl)) (triethylsilylmethyl)siloxy}perfluoroanthracen-1-yl) (pentafluoropyrenyl) (perfluorofluorenyl) (perfluoroanthracenyl)borate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene (2,7-di-t-butyl-fluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(6-{di-((methyldiethylsilyloctyl)) (triethylsilylmethyl)siloxy}perfluoroanthracen-1-yl) (pentafluoropyrenyl) (perfluorofluorenyl) (perfluoroanthracenyl)borate]⁻/ di(4-n-butylphenyl)methylene (2,7-dimethyl fluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(6-{di-((tri-isopropyl)silyloctyl))isopropylsiloxy}perfluoronaphth-1-yl) (perfluorobiphenyl) (2',3',4'-trifluorobiphenyl) (perfluorophenyl)borate]⁻/ di(4-n-butylphenyl) methylene (fluorenyl) (indenyl) hafnium dimethyl; [trityl]⁺[(6-{di-(hexyl)isopropylsiloxy}perfluorofluoren-1-yl) (2,3,6-trifluorophenyl) (2',3',4'-trifluorobiphenyl) (pentafluoroanthracenyl)borate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene (2,7-di-t-butyl-fluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(6-{di-(hexyl)isopropylsiloxy}perfluorofluoren-1-yl) (2,3,6-trifluorophenyl) (2',3',4'-trifluorobiphenyl) (pentafluoroanthracenyl)borate]⁻/ di(4-n-butylphenyl) methylene (fluorenyl) (indenyl) hafnium dimethyl; [trityl]⁺[(6-{di-(hexyl)isopropylsiloxy}perfluorofluoren-1-yl) (2,3,6-trifluorophenyl) (2',3',4'-trifluorobiphenyl) (pentafluoroanthracenyl)borate]⁻/ dimethylsilyl bis(phenylmethylindenyl) hafnium dimethyl; [trityl]⁺[(6-{hexyl(methyldiethylsilyloctyl)isopropylsiloxy}perfluoronaphth-2-yl)bis(perfluorobiphenyl) (perfluorophenylaluminat)]⁻/ silacyclobutyl(tetramethylcyclopentadienyl) (n-propylcyclopentadienyl) zirconium dimethyl; [trityl]⁺[(6-{hexylisopropyl(triethylsilylpropyl)siloxy}perfluoroanthracen-1-yl) (perfluoroanthracenyl) (2,3,4-trifluorophenyl) (perfluoropyrenyl)borate]⁻/ diphenylmethyl (cyclopentadienyl) (fluorenyl) hafnium dimethyl; [trityl]⁺[(6-{hexylisopropyl(tri-(isopropyl)silyloctyl)siloxy}perfluoroanthracen-2-yl) (perfluorophenyl) (perfluorobiphenyl) (pentafluoropyrenyl)borate]⁻/ (pentamethylcyclopentadienyl) (cyclopentadienyl)zirconium dimethyl; [trityl]⁺[(6-{hexylisopropyl(tri-(isopropyl)silyloctyl)siloxy}perfluoroanthracen-2-yl) (perfluorophenyl) (perfluorobiphenyl) (pentafluoropyrenyl)borate]⁻/ pentamethylcyclopentadienyl titanium trimethyl; [trityl]⁺[(6-{isopropyl(t-butyl)isopropylsiloxy}perfluoroanthracen-1-yl) (perfluorophenyl) (perfluorobiphenyl) (tetrafluorofluorenyl)aluminat)]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(6-{isopropyl(t-butyl)isopropylsiloxy}perfluoroanthracen-1-yl) (perfluorophenyl) (perfluorobiphenyl) (tetrafluorofluorenyl)aluminat)]⁻/ dimethylsilyl bisindenyl hafnium

dimethyl; [trityl]⁺[(6-{isopropyl(trimethylsilyl)ethyl} (2,2-dimethyloctyl)siloxy)-perfluoroanthracen-2-yl]bis(perfluoroanthracenyl) (pentafluoroanthracenyl)borate]⁻/ di(4-n-butylphenyl)methylene (2,7-di-t-butyl fluorenyl) (cyclopentadienyl) hafnium dimethyl;

[trityl]⁺[(6-{isopropyl(tri-n-propylsilyl)hexyl} (triethylsilylpropyl)siloxy}perfluorofluoren-1-yl) (2,3,6-trifluorophenyl) (perfluorobiphenyl) (2,3,4-trifluorophenyl)borate]⁻/ diphenylmethyl (cyclopentadienyl) (fluorenyl) hafnium dimethyl; [trityl]⁺[(6-{isopropyl(tri-n-propylsilyl)hexyl} (triethylsilylpropyl)siloxy}perfluoronaphth-1-yl) (perfluoropyrenyl) (pentafluoropyrenyl) (perfluorobiphenyl)borate]⁻/ bis(4-(triethylsilyl)phenyl)methylene(cyclopentadienyl) (2,7-di-t-butyl-fluorenyl)hafnium dimethyl; [trityl]⁺[(6-{tri-(isopropyl)siloxy}perfluoroanthracen-1-yl) (4,5,6,7-tetrafluoronaphthyl) (perfluorofluorenyl) (2,3,6-trifluorophenyl)aluminate]⁻/ (4-n-propylphenyl) (4-methylphenyl)methylene(fluorenyl) (indenyl) hafnium dimethyl; [trityl]⁺[(6-{tri-(isopropyl)siloxy}perfluoroanthracen-1-yl) (pentafluoroanthracenyl) (2,3,5-trifluorophenyl) (perfluoroanthracenyl)aluminate]⁻/ dimethylsilyl bis(phenylmethylindenyl) hafnium dimethyl;

[trityl]⁺[(6-{tri-(isopropyl)siloxy}perfluoroanthracen-1-yl) (pentafluoroanthracenyl) (perfluoropyrenyl) (perfluorophenyl)borate]⁻/ di(4-n-butylphenyl)methylene (2,7-dimethyl fluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(6-{tri-(isopropyl)siloxy}-perfluoroanthracen-1-yl) (perfluorobiphenyl) (perfluoronaphthyl) (perfluorophenyl)borate]⁻/ isopropyl (cyclopentadienyl) (fluorenyl) hafnium dimethyl; [trityl]⁺[(6-{tri-(isopropyl)siloxy}-perfluoroanthracen-2-yl) (2',3',4'-trifluorobiphenyl) (perfluoroanthracenyl) (4,5,7-trifluoronaphthyl)aluminate]⁻/ dibutylsilyl (fluorenyl) (cyclopentadienyl) hafnium dimethyl;

[trityl]⁺[(6-{tri-(isopropyl)siloxy}perfluoroanthracen-2-yl) (2',3',4'-trifluorobiphenyl) (perfluoroanthracenyl) (4,5,7-trifluoronaphthyl)aluminate]⁻/ dimethylsilylbis(2-methylbenzindenyl) zirconium dimethyl; [trityl]⁺[(6-{tri-(isopropyl)siloxy}perfluoroanthracen-2-yl) (perfluorobiphenyl) (perfluorophenyl) (4,5,6,7-tetrafluoronaphthyl)aluminate]⁻/ bis(4-(triethylsilyl)phenyl)methylene(cyclopentadienyl) (fluorenyl)hafnium dimethyl; [trityl]⁺[(6-{tri-(isopropyl)siloxy}perfluorofluoren-1-yl) (2,3,5-trifluorophenyl) (perfluorobiphenyl) (perfluorophenyl)borate]⁻/ dimethylsilyl bis(phenylmethylindenyl) hafnium dimethyl;

[trityl]⁺[(6-{tri-(isopropyl)siloxy}perfluorofluoren-1-yl) (4,5,6,7-tetrafluoronaphthyl) (perfluorophenyl) (2,3,5-trifluorophenyl)borate]⁻/ diphenylmethylene (2,7-di-n-butyl fluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(6-{tri-(isopropyl)siloxy}perfluorofluoren-1-yl)tris(perfluorophenyl)borate]⁻/ dimethylsilyl bis(phenylmethylindenyl) hafnium dimethyl;

[trityl]⁺[(6-{tri-(isopropyl)siloxy}perfluorofluoren-1-yl)tris(perfluorophenyl)borate]⁻/

dimethylsilyl(tetramethylcyclopentadienyl) (dodecylamido) hafnium dimethyl; [trityl]⁺[(6-{tri-(isopropyl)siloxy}perfluorofluoren-2-yl) (perfluoroanthracenyl) (perfluoropyrenyl) (perfluorophenyl)borate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene(2,7-dimethylfluorenyl) (indenyl) hafnium dibenzyl; [trityl]⁺[(6-{tri-(isopropyl)siloxy}perfluorofluoren-2-yl) (perfluoroanthracenyl) (perfluoropyrenyl) (perfluorophenyl)borate]⁻/ dimethylsilyl bis(naphthylmethylindenyl) hafnium dimethyl; [trityl]⁺[(6-{tri-(isopropyl)siloxy}perfluorofluoren-2-yl) (perfluorobiphenyl) (perfluorofluorenyl) (4,5,6,7-tetrafluoronaphthyl)borate]⁻/ (4-alkylphenyl) (4-t-butylphenyl)methylene(cyclopentadienyl) (fluorenyl) hafnium dimethyl; [trityl]⁺[(6-{tri-(isopropyl)siloxy}perfluorofluoren-2-yl) (perfluorobiphenyl) (perfluorofluorenyl) (4,5,6,7-tetrafluoronaphthyl)borate]⁻/ di(4-n-butylphenyl)methylene (2,7-di-t-butyl fluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(6-{tri-(isopropyl)siloxy}perfluorofluoren-2-yl) (perfluorobiphenyl) (perfluorophenyl) (perfluorofluorenyl)aluminate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene (2,7-di-t-butyl-fluorenyl) (indenyl) hafnium dimethyl; [trityl]⁺[(6-{tri-(isopropyl)siloxy}perfluorofluoren-2-yl) (perfluoronaphthyl) (2,3,6-trifluorophenyl) (perfluorophenyl)borate]⁻/ methylphenylmethylene bis(fluorenyl) hafnium dimethyl; [trityl]⁺[(6-{tri-(isopropyl)siloxy}perfluorofluoren-2-yl) (perfluorophenyl) (perfluorobiphenyl) (2',3',5'-trifluorobiphenyl)aluminate]⁻/ dimethylsilyl bis(2-methyl-indenyl) hafnium dimethyl; [trityl]⁺[(6-{tri-(isopropyl)siloxy}perfluorofluoren-2-yl) (perfluorophenyl) (perfluorobiphenyl) (2',3',5'-trifluorobiphenyl)aluminate]⁻/ isopropyl (cyclopentadienyl) (fluorenyl) hafnium dimethyl; [trityl]⁺[(6-{tri-(isopropyl)siloxy}perfluorofluoren-2-yl)bis(perfluorophenyl) (perfluoropyrenyl)aluminate]⁻/ methylphenylmethylene bis(fluorenyl) hafnium dimethyl; [trityl]⁺[(6-{tri-(isopropyl)siloxy}perfluoroinden-2-yl) (4,5,6,7-tetrafluoronaphthyl) (2',3',5'-trifluorobiphenyl) (perfluorobiphenyl)borate]⁻/ bis(4-(triethylsilyl)phenyl)methylene(cyclopentadienyl) (2,7-di-t-butyl-fluorenyl)hafnium dimethyl; [trityl]⁺[(6-{tri-(isopropyl)siloxy}perfluoroinden-2-yl) (4,5,6-trifluoronaphthyl) (4,5,7-trifluoronaphthyl) (2',3',4'-trifluorobiphenyl)borate]⁻/ dimethylsilyl (indenyl) (fluorenyl) hafnium dihydride; [trityl]⁺[(6-{tri-(isopropyl)siloxy}perfluoroinden-2-yl) (pentafluoroanthracenyl) (4,5,6-trifluoronaphthyl) (perfluorophenyl)borate]⁻/ (tetramethyl-cyclopentadienyl) (n-propylcyclopentadienyl) zirconium dimethyl; [trityl]⁺[(6-{tri-(isopropyl)siloxy}perfluoroinden-2-yl) (pentafluoropyrenyl) (5,6,7,8-tetrafluoronaphthyl) (perfluoropyrenyl)borate]⁻/ dimethylsilyl bis(2-methyl-4-naphth-2-yl-indenyl) hafnium dimethyl; [trityl]⁺[(6-{tri-(isopropyl)siloxy}-perfluoroinden-2-yl) (pentafluoropyrenyl) (perfluorophenyl) (perfluorofluorenyl)aluminate]⁻/

diphenylmethyl (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(6-{tri-(isopropyl)siloxy}perfluoronaph-1-yl)bis(tetrafluorofluorenyl) (perfluorobiphenyl)borate]⁻/ dimethylsilyl (indenyl) (fluorenyl) hafnium dihydride; [trityl]⁺[(6-{tri-(isopropyl)siloxy}-perfluoronaph-1-yl)bis(tetrafluorofluorenyl) (perfluorobiphenyl)borate]⁻/ pentamethyl cyclopentadienyl tribenzyl titanium; [trityl]⁺[(6-{tri-(isopropyl)siloxy}perfluoronaph-2-yl) (2,3,4-trifluorophenyl) (perfluorofluorenyl) (perfluorophenyl)borate]⁻/ diphenylmethyl (cyclopentadienyl) (2,7-di-t-butyl-fluorenyl) hafnium dimethyl; [trityl]⁺[(6-{tri-(isopropyl)siloxy}-perfluoronaph-2-yl)bis(perfluorophenyl) (perfluorobiphenyl)borate]⁻/ methylphenylmethylene bis(fluorenyl) hafnium dimethyl; [trityl]⁺[(6-{tri-(isopropyl)siloxy}perfluoronaph-3-yl) (5,6,7,8-tetrafluoronaphthyl) (perfluorofluorenyl) (perfluorobiphenyl)borate]⁻/ diphenylmethyl (cyclopentadienyl) (fluorenyl) hafnium dimethyl; [trityl]⁺[(6-{tri-(isopropyl)siloxy}-perfluoronaph-3-yl) (tetrafluorofluorenyl) (perfluorophenyl) (perfluorobiphenyl)borate]⁻/ diphenylmethylene (cyclopentadienyl) (2,7-dimethyl fluorenyl) hafnium dimethyl; [trityl]⁺[(7-{(3-ethylnonyl) (triethylsilylpropyl)isopropylsiloxy}perfluorofluoren-1-yl) (perfluorofluorenyl) (pentafluoroanthracenyl) (2,3,6-trifluorophenyl)borate]⁻/ methylene (2,7-di-t-butyl fluorenyl) (fluorenyl) hafnium dimethyl; [trityl]⁺[(7-{(3-ethylnonyl) (t-butyl) (triethylsilylethyl)siloxy}-perfluoronaph-3-yl) (tetrafluorofluorenyl) (2',3',5'-trifluorobiphenyl) (perfluorophenyl)borate]⁻/ diphenylmethylene(cyclopentadienyl) (fluorenyl) hafnium dimethyl; [trityl]⁺[(7-{(3-ethylnonyl) (tri-(isopropyl)silyloctyl)isopropylsiloxy}perfluorofluoren-2-yl) (2,3,5-trifluorophenyl) (2',3',4'-trifluorobiphenyl) (perfluorobiphenyl)borate]⁻/ bis(1,3-dibutyl-methyl-cyclopentadienyl) zirconium dimethyl; [trityl]⁺[(7-{(triethylsilylpropyl) (triethylsilylmethyl) (3-ethylnonyl)siloxy}-perfluoropyren-1-yl)tris(perfluorophenyl)borate]⁻/ bis(1,3-dibutyl-methyl-cyclopentadienyl) zirconium dimethyl; [trityl]⁺[(7-{(2,2-dimethyloctyl) (triethylsilylethyl)isopropylsiloxy}-perfluorofluoren-2-yl) (pentafluoropyrenyl) (tetrafluorofluorenyl) (perfluorobiphenyl)borate]⁻/ diphenylmethyl (cyclopentadienyl) (fluorenyl) hafnium dimethyl; [trityl]⁺[(7-{(methyl-diethylsilyloctyl)isopropyl-nonylsiloxy}perfluoropyren-2-yl) (pentafluoropyrenyl) (perfluoronaphthyl) (2,3,4-trifluorophenyl)borate]⁻/ diphenylmethyl (cyclopentadienyl) (2,7-di-t-butyl-fluorenyl) hafnium dimethyl; [trityl]⁺[(7-{(methyl-diethylsilyloctyl)isopropyl-nonylsiloxy}-perfluoropyren-2-yl) (pentafluoropyrenyl) (perfluoronaphthyl) (2,3,4-trifluorophenyl)borate]⁻/ diphenylmethyl (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(7-{(t-butyl) (methyl-diethylsilyloctyl) (tri-n-propylsilylhexyl)siloxy}perfluoroinden-2-yl) (4,5,7-trifluoronaphthyl) (perfluorophenyl) (perfluorofluorenyl)aluminate]⁻/

(tetramethyl-cyclopentadienyl) (n-propylcyclopentadienyl) zirconium dimethyl; [trityl]⁺[(7-((tri-(isopropyl)silyloctyl) (3-ethylnonyl) (2,2-dimethyloctyl)siloxy)perfluoronaphth-2-yl) (2,3,5-trifluorophenyl) (2',3',5'-trifluorobiphenyl) (4,5,6-trifluoronaphthyl)borate]⁻/ dimethylsilyl bis(2-methyl-4-phenyl-indenyl) hafnium dimethyl; [trityl]⁺[(7-((tri-(isopropyl)silyloctyl) (3-ethylnonyl) (2,2-dimethyloctyl)siloxy)perfluoronaphth-2-yl) (2,3,5-trifluorophenyl) (2',3',5'-trifluorobiphenyl) (4,5,6-trifluoronaphthyl)borate]⁻/ dimethylsilyl bis(phenylmethylindenyl) hafnium dimethyl; [trityl]⁺[(7-((triethylsilylethyl) (methyldiethylsilyloctyl)nonylsiloxy)perfluoronaphth-1-yl) (perfluoropyrenyl) (perfluoronaphthyl) (perfluoroanthracenyl)aluminate]⁻/ diphenylmethylene(cyclopentadienyl) (2,7-methyl-fluorenyl) hafnium dimethyl; [trityl]⁺[(7-((triethylsilylethyl)isopropylbenzylsiloxy)perfluoroanthracen-1-yl) (perfluoropyrenyl) (perfluorobiphenyl) (pentafluoropyrenyl)borate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene (2,7-di-t-butyl-fluorenyl) (indenyl) hafnium dimethyl; [trityl]⁺[(7-((triethylsilylethyl)isopropylbenzylsiloxy)perfluoroanthracen-1-yl) (perfluoropyrenyl) (perfluorobiphenyl) (pentafluoropyrenyl)borate]⁻/ dimethylsilyl bis(indenyl) hafnium dimethyl; [trityl]⁺[(7-((triethylsilylethyl)isopropylbenzylsiloxy)perfluoroanthracen-1-yl) (perfluoropyrenyl) (perfluorobiphenyl) (pentafluoropyrenyl)borate]⁻/ diphenylmethylene(cyclopentadienyl) (fluorenyl) hafnium dimethyl; [trityl]⁺[(7-((triethylsilylmethyl)isopropyl(2,2-dimethyloctyl)siloxy)perfluoropyren-2-yl) (2',3',4'-trifluorobiphenyl) (perfluoronaphthyl) (4,5,6,7-tetrafluoronaphthyl)aluminate]⁻/ dimethylsilyl bis(indenyl) hafnium dimethyl; [trityl]⁺[(7-((trimethylsilylethyl) (t-butyl) (triethylsilylethyl)siloxy)fluoropyren-1-yl) (2,3,5-trifluorophenyl) (perfluoropyrenyl) (perfluorophenyl)aluminate]⁻/ dimethylsilyl bis(phenylmethylindenyl) hafnium dimethyl; [trityl]⁺[(7-((trimethylsilylethyl) (t-butyl) (triethylsilylethyl)siloxy)fluoropyren-1-yl) (2,3,5-trifluorophenyl) (perfluoropyrenyl) (perfluorophenyl)aluminate]⁻/ diphenylmethyl (fluorenyl) (cyclopentadienyl) zirconium dimethyl; [trityl]⁺[(7-((trimethylsilylethyl) (t-butyl) (triethylsilylethyl)siloxy)fluoropyren-1-yl) (2,3,5-trifluorophenyl) (perfluoropyrenyl) (perfluorophenyl)aluminate]⁻/ methylene (indenyl) (2,7-di-t-butyl-fluorenyl) hafnium dimethyl; [trityl]⁺[(7-((tri-n-propylsilylhexyl)isopropyl(tri-(isopropyl)silyloctyl)siloxy)perfluoronaphth-3-yl) (perfluorofluorenyl) (perfluorobiphenyl) (perfluorophenyl)borate]⁻/ bis(4-triethylsilylphenyl)methylene(cyclopentadienyl) (fluorenyl)hafnium dimethyl; [trityl]⁺[(7-((tri-n-propylsilylhexyl)isopropylnonylsiloxy)perfluoronaphth-1-yl) (4,5,7-trifluoronaphthyl) (pentafluoropyrenyl) (perfluoronaphthyl)aluminate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene (2,7-di-t-butyl-fluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(7-((benzylisopropylcyclohexylsiloxy)perfluoronaphth-1-yl) (4,5,6,7-tetrafluoronaphthyl)

(perfluorofluorenyl) (perfluorophenyl)borate]⁻ di(4-n-butylphenyl)methylene (2,7-di-t-butyl fluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(7-{benzylisopropylcyclohexylsiloxy}-perfluoronaph-1-yl) (4,5,6,7-tetrafluoronaphthyl) (perfluorofluorenyl) (perfluorophenyl)borate]⁻ / dimethylsilylbis(tetrahydroindenyl) zirconium dichloride; [trityl]⁺[(7-{benzylisopropyl-nonylsiloxy}perfluorofluoren-1-yl) (5,6,7,8-tetrafluoronaphthyl) (perfluorobiphenyl) (perfluoronaphthyl)aluminate]⁻ / (4-n-butylphenyl) (4-t-butylphenyl)methylene (2,7-di-t-butyl-fluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(7-{benzylisopropyl-nonylsiloxy}perfluorofluoren-1-yl) (5,6,7,8-tetrafluoronaphthyl) (perfluorobiphenyl) (perfluoronaphthyl)aluminate]⁻ / (4-n-butylphenyl) (4-t-butylphenyl)methylene (2,7-di-t-butyl-fluorenyl) (indenyl) hafnium dimethyl; [trityl]⁺[(7-{benzylisopropyl-nonylsiloxy}perfluorofluoren-1-yl) (5,6,7,8-tetrafluoronaphthyl) (perfluorobiphenyl) (perfluoronaphthyl)aluminate]⁻ / methylphenylmethylene bis(fluorenyl) hafnium dimethyl; [trityl]⁺[(7-{benzyl-nonyl(methyldiethylsilyloctyl)siloxy}perfluoronaph-2-yl)bis(perfluorophenyl) (2',3',4'-trifluorobiphenyl)aluminate]⁻ / methylphenylmethylene bis(fluorenyl) hafnium dimethyl; [trityl]⁺[(7-{di-((methyldiethylsilyloctyl))isopropylsiloxy}-perfluoronaph-2-yl) (perfluorobiphenyl) (perfluorophenyl) (4,5,6,7-tetrafluoronaphthyl)borate]⁻ / (4-n-butylphenyl) (4-t-butylphenyl)methylene (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(7-{di-((tri-(isopropyl)silyloctyl))isopropylsiloxy}perfluoronaph-3-yl)bis(perfluoropyrenyl) (2,3,6-trifluorophenyl)aluminate]⁻ / (4-n-butylphenyl) (4-t-butylphenyl)methylene (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(7-{di-((tri-(isopropyl)silyloctyl))isopropylsiloxy}perfluoronaph-3-yl)bis(perfluoropyrenyl) (2,3,6-trifluorophenyl)aluminate]⁻ / bis(4-triethylsilylphenyl)methylene(cyclopentadienyl) (fluorenyl)hafnium dimethyl; [trityl]⁺[(7-{di-((tri-(isopropyl)silyloctyl))isopropylsiloxy}-perfluoronaph-3-yl)bis(perfluoropyrenyl) (2,3,6-trifluorophenyl)aluminate]⁻ / di(4-n-butylphenyl) methylene (fluorenyl) (indenyl) hafnium dimethyl; [trityl]⁺[(7-{di-((triethylsilylhexyl))isopropylsiloxy}perfluoroinden-2-yl) (perfluorobiphenyl) (perfluorophenyl) (2',3',5'-trifluorobiphenyl)borate]⁻ / dimethylsilyl bis(2-methyl-4-naphth-2-yl-indenyl) hafnium dimethyl; [trityl]⁺[(7-{di-((triethylsilylhexyl))isopropylsiloxy}perfluoronaph-2-yl) (perfluorofluorenyl) (perfluorophenyl) (perfluoropyrenyl)borate]⁻ / dinaphthylmethylene (cyclopentadienyl) (fluorenyl) hafnium dimethyl; [trityl]⁺[(7-{di-((tri-n-propylsilylhexyl)) (triethylsilylhexyl)siloxy}perfluoronaph-2-yl)bis(perfluorobiphenyl) (perfluoroanthracenyl)borate]⁻ / dimethylsilylbis(2-methylbenzindenyl) zirconium dimethyl; [trityl]⁺[(7-{di-(isopropyl) (triethylsilylhexyl)siloxy}fluoropyren-2-yl) (2,3,4-trifluorophenyl)

(perfluorofluorenyl) (2,3,5-trifluorophenyl)borate]⁻/ di(4-n-butylphenyl)methylene (2,7-di-t-butyl fluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(7-{di-(isopropyl) (triethylsilylhexyl)siloxy}fluoropyren-2-yl) (2,3,4-trifluorophenyl) (perfluorofluorenyl) (2,3,5-trifluorophenyl)borate]⁻/ dibutylsilyl (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(7-{ethyl(methyldiethylsilyloctyl)isopropylsiloxy}perfluoronaphth-3-yl) (perfluoroanthracenyl) (4,5,7-trifluoronaphthyl) (perfluorophenyl)borate]⁻/ dibutylsilyl (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(7-{ethyl(methyldiethylsilyloctyl)isopropylsiloxy}perfluoronaphth-3-yl) (perfluoroanthracenyl) (4,5,7-trifluoronaphthyl) (perfluorophenyl)borate]⁻/ diphenylmethyl (fluorenyl) (cyclopentadienyl) zirconium dimethyl; [trityl]⁺[(7-{hexyl(tri-n-propylsilylhexyl)isopropylsiloxy}-perfluoroinden-2-yl) (perfluorofluorenyl) (2',3',4'-trifluorobiphenyl) (perfluorophenyl)borate]⁻/ dimethylsilyl (tetramethylcyclopentadienyl) (t-butylamino) titanium dimethyl; [trityl]⁺[(7-{isopropyl (3-ethylnonyl)isopropylsiloxy}perfluorofluoren-2-yl) (tetrafluorofluorenyl) (2',3',5'-trifluorobiphenyl) (4,5,6,7-tetrafluoronaphthyl)borate]⁻/ diphenylmethylene (cyclopentadienyl) (2,7-di-t-butyl fluorenyl) hafnium dimethyl; [trityl]⁺[(7-{isopropyl(t-butyl) (triethylsilylmethyl)siloxy}perfluoroinden-2-yl) (perfluorophenyl) (perfluoropyrenyl) (2,3,5-trifluorophenyl)borate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene (2,7-di-t-butyl-fluorenyl) (cyclopentadienyl) hafnium dimethyl ; [trityl]⁺[(7-{isopropyl(t-butyl) (triethylsilylmethyl)siloxy}perfluoroinden-2-yl) (perfluorophenyl) (perfluoropyrenyl) (2,3,5-trifluorophenyl)borate]⁻/ bis(4-(triethylsilyl)phenyl)methylene(cyclopentadienyl) (2,7-di-t-butyl-fluorenyl)hafnium dimethyl; [trityl]⁺[(7-{isopropyl(t-butyl) (triethylsilylmethyl)siloxy}perfluoronaphth-3-yl) (perfluoroanthracenyl) (perfluorophenyl) (pentafluoroanthracenyl)borate]⁻/ dimethylsilyl(tetramethylcyclopentadienyl) (dodecylamido) hafnium dihydride; [trityl]⁺[(7-{isopropyl(t-butyl)nonylsiloxy}perfluoronaphth-2-yl)bis(perfluorophenyl) (4,5,6-trifluoronaphthyl)borate]⁻/ (4-alkylphenyl) (4-t-butylphenyl)methylene(cyclopentadienyl) (fluorenyl) hafnium dimethyl; [trityl]⁺[(7-{isopropyl(triethylsilylethyl)cyclohexylsiloxy}-perfluoroinden-2-yl) (2,3,5-trifluorophenyl) (perfluorobiphenyl) (pentafluoropyrenyl)borate]⁻/ diphenylmethyl (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(7-{isopropyl(triethylsilylhexyl) (triethylsilylmethyl)siloxy}perfluorofluoren-1-yl) (5,6,7,8-tetrafluoronaphthyl) (4,5,7-trifluoronaphthyl) (perfluorophenyl)borate]⁻/ diphenylmethylene (cyclopentadienyl) (2,7-di-t-butyl fluorenyl) hafnium dimethyl ; [trityl]⁺[(7-{isopropyl(trimethylsilylethyl)isopropylsiloxy}perfluoronaphth-1-yl)

(perfluorobiphenyl) (perfluorophenyl) (4,5,7-trifluoronaphthyl)borate]⁻/

(pentamethylcyclopentadienyl) (cyclopentadienyl)zirconium dimethyl; [trityl]⁺[(7-{isopropyl(trimethylsilyl)ethyl}isopropylsiloxy)perfluoronaph-1-yl] (perfluorobiphenyl) (perfluorophenyl) (4,5,7-trifluoronaphthyl)borate]⁻/ diphenylmethylenecyclopentadienyl (2,7-dimethylfluorenyl) hafnium dimethyl; [trityl]⁺[(7-{isopropyl(tri-n-propylsilyl)hexyl} (triethylsilyl)hexyl)siloxy]perfluoroinden-2-yl] (2,3,5-trifluorophenyl) (perfluoropyrenyl) (pentafluoroanthracenyl)aluminate]⁻/ di(4-n-butylphenyl)methylene (2,7-dimethylfluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(7-{isopropylcyclohexylisopropylsiloxy}-perfluoronaph-2-yl) (perfluorophenyl) (2',3',5'-trifluorobiphenyl) (perfluorofluorenyl)borate]⁻/ dibutylsilyl (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(7-{isopropylhexyl(t-butyl)siloxy}perfluoropyren-2-yl)bis(perfluorofluorenyl) (2',3',5'-trifluorobiphenyl)borate]⁻/ bis(trimethylsilyl) titanium dimethyl; [trityl]⁺[(7-{isopropyl(nonyl(triethylsilyl)propyl)siloxy}-fluorofluoren-2-yl) (2,3,6-trifluorophenyl) (perfluorophenyl) (perfluorofluorenyl)borate]⁻/ bis(trimethylsilyl) titanium dimethyl; [trityl]⁺[(7-{isopropyl(octyl(methyldiethylsilyl)octyl)siloxy}-perfluoropyren-1-yl) (perfluorophenyl) (tetrafluorofluorenyl) (perfluorobiphenyl)borate]⁻/ (4-n-propylphenyl) (4-isopropylphenyl)silylenebis(fluorenyl) hafnium di-t-butyl; [trityl]⁺[(7-{isopropyl(octyl(triethylsilyl)ethyl)siloxy}perfluoronaph-2-yl) (perfluorofluorenyl) (perfluorobiphenyl) (perfluorophenyl)borate]⁻/ diphenylmethylenecyclopentadienyl (2,7-di-n-butylfluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(7-{nonyl(triethylsilyl)propyl}isopropylsiloxy)-perfluoropyren-2-yl] (4,5,7-trifluoronaphthyl) (perfluoropyrenyl) (perfluorophenyl)aluminate]⁻/ (4-alkylphenyl) (4-t-butylphenyl)methylenecyclopentadienyl (fluorenyl) hafnium dimethyl; [trityl]⁺[(7-{octylisopropyl(triethylsilyl)ethyl)siloxy}perfluoronaph-1-yl] (pentafluoroanthracenyl) (2',3',5'-trifluorobiphenyl) (4,5,6-trifluoronaphthyl)aluminate]⁻/ dimethylsilyl(tetramethylcyclopentadienyl) (tert-butylamido) titanium dichloride; [trityl]⁺[(7-{tri(isopropyl)siloxy}perfluoroanthracen-1-yl) (5,6,7,8-tetrafluoronaphthyl) (2,3,4-trifluorophenyl) (perfluorophenyl)borate]⁻/ dimethylsilyl (indenyl) (fluorenyl) hafnium dihydride; [trityl]⁺[(7-{tri(isopropyl)siloxy}perfluoroanthracen-1-yl) (pentafluoroanthracenyl) (perfluorobiphenyl) (perfluorophenyl)borate]⁻/ bis(4-(triethylsilyl)phenyl)methylenecyclopentadienyl (fluorenyl)hafnium dimethyl; [trityl]⁺[(7-{tri(isopropyl)siloxy}perfluoroanthracen-1-yl) (perfluorophenyl) (4,5,6,7-tetrafluoronaphthyl) (perfluorobiphenyl)aluminate]⁻/ dimethylsilylbis(2-methylbenzindenyl) zirconium dimethyl; [trityl]⁺[(7-{tri(isopropyl)siloxy}-perfluoroanthracen-1-yl)bis(2',3',5'-trifluorobiphenyl) (2',3',4'-trifluorobiphenyl)borate]⁻/ dimethylsilyl(tetramethylcyclopentadienyl) (dodecylamido) hafnium dihydride; [trityl]⁺[(7-{tri-

(isopropyl)siloxy}perfluoroanthracen-1-yl)bis(2',3',5'-trifluorobiphenyl) (2',3',4'-trifluorobiphenyl)borate]⁻/ methylene (indenyl) (2,7-di-t-butyl-fluorenyl) hafnium dimethyl; [trityl]⁺[(7-{tri-(isopropyl)siloxy}perfluorofluoren-1-yl) (perfluorofluorenyl) (perfluorophenyl) (5,6,7,8-tetrafluoronaphthyl)aluminate]⁻/ bis(4-(triethylsilyl)phenyl)methylene(cyclopentadienyl) (2,7-di-t-butyl-fluorenyl)hafnium dimethyl; [trityl]⁺[(7-{tri-(isopropyl)siloxy}perfluorofluoren-1-yl) (perfluorophenyl) (perfluoropyrenyl) (4,5,6-trifluoronaphthyl)borate]⁻/ diphenylmethylene (cyclopentadienyl) (2,7-dimethyl fluorenyl) hafnium dimethyl; [trityl]⁺[(7-{tri-(isopropyl)siloxy}perfluorofluoren-1-yl) (tetrafluorofluorenyl) (2',3',4'-trifluorobiphenyl) (perfluoropyrenyl)aluminate]⁻/ di(4-n-butylphenyl) methylene (fluorenyl) (indenyl) hafnium dimethyl; [trityl]⁺[(7-{tri-(isopropyl)siloxy}perfluorofluoren-1-yl)bis(perfluorobiphenyl) (5,6,7,8-tetrafluoronaphthyl)borate]⁻/ dimethylsilyl bis(2-methyl-4-naphth-2-yl-indenyl) hafnium dimethyl; [trityl]⁺[(7-{tri-(isopropyl)siloxy}perfluorofluoren-1-yl)bis(perfluorobiphenyl) (perfluorophenyl)borate]⁻/ bis(4-(triethylsilyl)phenyl)methylene(cyclopentadienyl) (fluorenyl)hafnium dimethyl; [trityl]⁺[(7-{tri-(isopropyl)siloxy}perfluorofluoren-1-yl)bis(perfluorobiphenyl) (perfluorophenyl)borate]⁻/ diphenylmethylene (cyclopentadienyl) (2,7-dimethyl fluorenyl) hafnium dimethyl; [trityl]⁺[(7-{tri-(isopropyl)siloxy}perfluorofluoren-1-yl)bis(perfluorophenyl) (perfluorofluorenyl)borate]⁻/ dimethylsilyl bisindenyl hafnium dimethyl; [trityl]⁺[(7-{tri-(isopropyl)siloxy}perfluorofluoren-1-yl)bis(perfluorophenyl) (tetrafluorofluorenyl)borate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene (2,7-di-t-butyl-fluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(7-{tri-(isopropyl)siloxy}perfluorofluoren-1-yl)bis(perfluorophenyl) (tetrafluorofluorenyl)borate]⁻/ dimethylsilyl (tetramethylcyclopentadienyl) (adamantyl-1-amino) titanium dimethyl; [trityl]⁺[(7-{tri-(isopropyl)siloxy}perfluorofluoren-2-yl) (2',3',5'-trifluorobiphenyl) (4,5,6,7-tetrafluoronaphthyl) (perfluorofluorenyl)borate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene(2,7-dimethyl-fluorenyl) (indenyl) hafnium dibenzyl; [trityl]⁺[(7-{tri-(isopropyl)siloxy}perfluorofluoren-2-yl) (2,3,5-trifluorophenyl) (perfluoroanthracenyl) (perfluorobiphenyl)borate]⁻/ diphenylmethylene(cyclopentadienyl) (2,7-di-t-butyl-fluorenyl) hafnium dimethyl; [trityl]⁺[(7-{tri-(isopropyl)siloxy}perfluorofluoren-2-yl) (perfluorophenyl) (2,3,4-trifluorophenyl) (perfluorobiphenyl)aluminate]⁻/ di(4-n-butylphenyl)methylene (2,7-di-t-butyl fluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(7-{tri-(isopropyl)siloxy}perfluorofluoren-2-yl)bis(perfluoronaphthyl) (perfluoropyrenyl)borate]⁻/ dimethylsilyl

(tetramethylcyclopentadienyl) (adamantyl-1-amino) titanium dimethyl; [trityl]⁺[(7-{tri-(isopropyl)siloxy}perfluorofluoren-2-yl)bis(perfluorophenyl) (2',3',5'-trifluorobiphenyl)borate]⁻ / dimethylsilylbis(2-methylbenzindenyl) zirconium dimethyl; [trityl]⁺[(7-{tri-(isopropyl)siloxy}-perfluoroinden-2-yl) (4,5,7-trifluoronaphthyl) (2,3,4-trifluorophenyl) (perfluorobiphenyl)borate]⁻ / bis(4-(triethylsilyl)phenyl)methylene(cyclopentadienyl) (fluorenyl)hafnium dimethyl; [trityl]⁺[(7-{tri-(isopropyl)siloxy}perfluoroinden-2-yl) (perfluorofluorenyl) (perfluorobiphenyl) (4,5,7-trifluoronaphthyl)borate]⁻ / di(4-n-butylphenyl) methylene (fluorenyl) (indenyl) hafnium dimethyl; [trityl]⁺[(7-{tri-(isopropyl)siloxy}perfluoroinden-2-yl) (perfluorophenyl) (perfluorobiphenyl) (tetrafluorofluorenyl)borate]⁻ / dimethylsilyl bis(naphthylmethylindenyl) hafnium dimethyl; [trityl]⁺[(7-{tri-(isopropyl)siloxy}perfluoroinden-2-yl) (perfluorophenyl) (perfluorobiphenyl) (tetrafluorofluorenyl)borate]⁻ / diphenylmethyl (cyclopentadienyl) (fluorenyl) hafnium dimethyl; [trityl]⁺[(7-{tri-(isopropyl)siloxy}perfluoronaph-1-yl) (4,5,6,7-tetrafluoronaphthyl) (perfluorofluorenyl) (2,3,6-trifluorophenyl)borate]⁻ / di(4-n-butylphenyl)methylene (2,7-dimethyl fluorenyl) (cyclopentadienyl) hafnium dibenzyl; [trityl]⁺[(7-{tri-(isopropyl)siloxy}perfluoronaph-1-yl) (pentafluoropyrenyl) (perfluorophenyl) (perfluorofluorenyl)borate]⁻ / bis(4-(triethylsilyl)phenyl)methylene(cyclopentadienyl) (fluorenyl)hafnium dimethyl; [trityl]⁺[(7-{tri-(isopropyl)siloxy}perfluoronaph-1-yl) (perfluorofluorenyl) (2,3,6-trifluorophenyl) (4,5,7-trifluoronaphthyl)borate]⁻ / dimethylsilyl bis(2-methyl-4-phenyl-indenyl) hafnium dimethyl; [trityl]⁺[(7-{tri-(isopropyl)siloxy}perfluoronaph-1-yl)bis(perfluoropyrenyl) (2,3,4-trifluorophenyl)borate]⁻ / di(4-n-butylphenyl)methylene (2,7-di-t-butyl fluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(7-{tri-(isopropyl)siloxy}-perfluoronaph-1-yl)bis(perfluoropyrenyl) (2,3,4-trifluorophenyl)borate]⁻ / diphenylmethylene (2,7-di-n-butyl fluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(7-{tri-(isopropyl)siloxy}-perfluoronaph-2-yl) (2,3,4-trifluorophenyl) (perfluorophenyl) (2,3,6-trifluorophenyl)borate]⁻ / dimethylsilyl (tetramethylcyclopentadienyl) (t-butylamino) titanium dimethyl; [trityl]⁺[(7-{tri-(isopropyl)siloxy}perfluoronaph-2-yl) (2,3,4-trifluorophenyl) (perfluorophenyl) (2,3,6-trifluorophenyl)borate]⁻ / pentamethyl cyclopentadienyl tribenzyl titanium; [trityl]⁺[(7-{tri-(isopropyl)siloxy}perfluoronaph-3-yl) (perfluorobiphenyl) (perfluoropyrenyl) (4,5,6-trifluoronaphthyl)borate]⁻ / methylene (2,7-di-t-butyl fluorenyl) (fluorenyl) hafnium dimethyl; [trityl]⁺[(7-{tri-(isopropyl)siloxy}perfluoronaph-3-yl) (perfluorofluorenyl) (2',3',5'-trifluorobiphenyl) (5,6,7,8-tetrafluoronaphthyl)borate]⁻ / di(4-n-butylphenyl)methylene (2,7-dimethyl fluorenyl) (cyclopentadienyl) hafnium dibenzyl; [trityl]⁺[(7-{tri-(isopropyl)siloxy}-

perfluoronaph-3-yl) (perfluorofluorenyl) (2',3',5'-trifluorobiphenyl) (5,6,7,8-tetrafluoronaphthyl)borate]⁻/ dimethylsilyl bis(2-propyl-indenyl) hafnium dimethyl; [trityl]⁺[(7-{tri-(isopropyl)siloxy}perfluoropyren-1-yl) (4,5,6-trifluoronaphthyl) (perfluoroanthracenyl) (perfluorofluorenyl)borate]⁻/ diphenylmethyl (fluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(7-{tri-(isopropyl)siloxy}perfluoropyren-1-yl) (5,6,7,8-tetrafluoronaphthyl) (perfluorobiphenyl) (perfluoropyrenyl)borate]⁻/ diphenylmethyl (cyclopentadienyl) (fluorenyl) hafnium dimethyl; [trityl]⁺[(7-{tri-(isopropyl)siloxy}perfluoropyren-1-yl) (pentafluoropyrenyl) (perfluoroanthracenyl) (perfluorobiphenyl)borate]⁻/ diphenylmethyl (cyclopentadienyl) (2,7-di-t-butyl-fluorenyl) hafnium dimethyl; [trityl]⁺[(7-{tri-(isopropyl)siloxy}perfluoropyren-1-yl) (pentafluoropyrenyl) (perfluoroanthracenyl) (perfluorobiphenyl)borate]⁻/ methylphenylmethylene bis(fluorenyl) hafnium dimethyl; [trityl]⁺[(7-{tri-(isopropyl)siloxy}perfluoropyren-1-yl) (perfluoroanthracenyl) (perfluorophenyl) (2',3',5'-trifluorobiphenyl)borate]⁻/ di(4-n-butylphenyl)methylene (2,7-di-t-butyl fluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(7-{tri-(isopropyl)siloxy}perfluoropyren-1-yl) (perfluorophenyl) (5,6,7,8-tetrafluoronaphthyl) (perfluoropyrenyl)aluminate]⁻/ methylphenylmethylene bis(fluorenyl) hafnium dimethyl; [trityl]⁺[(7-{tri-(isopropyl)siloxy}perfluoropyren-1-yl) (perfluoropyrenyl) (4,5,7-trifluoronaphthyl) (2,3,5-trifluorophenyl)borate]⁻/ dinaphthylmethylene (cyclopentadienyl) (fluorenyl) hafnium dimethyl; [trityl]⁺[(7-{tri-(isopropyl)siloxy}perfluoropyren-1-yl)bis(perfluorophenyl) (perfluorobiphenyl)aluminate]⁻/ (4-n-propylphenyl) (4-methylphenyl)methylene(fluorenyl) (indenyl) hafnium dimethyl; [trityl]⁺[(7-{tri-(isopropyl)siloxy}perfluoropyren-1-yl)bis(perfluorophenyl) (perfluorobiphenyl)aluminate]⁻/ dimethylsilyl-bisindenyl hafnium dimethyl; [trityl]⁺[(7-{tri-(isopropyl)siloxy}perfluoropyren-1-yl)bis(perfluorophenyl) (perfluorobiphenyl)aluminate]⁻/ isopropyl (cyclopentadienyl) (fluorenyl) hafnium dimethyl; [trityl]⁺[(7-{tri-(isopropyl)siloxy}perfluoropyren-1-yl)tris(perfluorophenyl)borate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene (2,7-di-t-butyl-fluorenyl) (indenyl) hafnium dimethyl; [trityl]⁺[(7-{tri-(isopropyl)siloxy}perfluoropyren-1-yl)tris(perfluorophenyl)borate]⁻/ bis(trimethylsilyl) titanium dimethyl; [trityl]⁺[(7-{tri-(isopropyl)siloxy}perfluoropyren-1-yl)tris(perfluorophenyl)borate]⁻/ dimethylsilyl(tetramethylcyclopentadienyl) (tert-butylamido) titanium dichloride; [trityl]⁺[(7-{tri-(isopropyl)siloxy}perfluoropyren-2-yl) (perfluorophenyl) (perfluoropyrenyl) (2,3,6-trifluorophenyl)borate]⁻/ dimethylsilyl(tetramethylcyclopentadienyl) (tert-butylamido) titanium dichloride; [trityl]⁺[(7-{tri-(isopropyl)siloxy}perfluoropyren-2-yl)bis(perfluorophenyl)]⁻

(perfluorobiphenyl)aluminate]⁻/ dimethylsilyl-bisindenyl hafnium dimethyl; [trityl]⁺[(8-
 {(methyldiethylsilyloctyl)hexyl (3-ethylnonyl)siloxy}fluoronaph-3-yl) (perfluorobiphenyl)
 (5,6,7,8-tetrafluoronaphthyl) (perfluorophenyl)aluminate]⁻/

diphenylmethylene(cyclopentadienyl) (2,7-methyl-fluorenyl) hafnium dimethyl; [trityl]⁺[(8-
 {(triethylsilylethyl)isopropylbenzylsiloxy}perfluoropyren-2-yl)bis(tetrafluorofluorenyl) (4,5,6-
 trifluoronaphthyl)borate]⁻/ diphenylmethylene(cyclopentadienyl) (fluorenyl) hafnium dimethyl;
 [trityl]⁺[(8-{di-(isopropyl) (triethylsilylpropyl)siloxy}perfluoropyren-2-yl) (perfluorophenyl)
 (tetrafluorofluorenyl) (perfluoropyrenyl)borate]⁻/ pentamethyl cyclopentadienyl titanium
 isopropoxide; [trityl]⁺[(8-{isopropyl(2,2-dimethyloctyl)isopropylsiloxy}perfluoronaph-3-
 yl)tris(perfluorophenyl)aluminate]⁻/ pentamethylcyclopentadienyl titanium trimethyl;
 [trityl]⁺[(8-{isopropyl(triethylsilylhexyl) (2,2-dimethyloctyl)siloxy}perfluoropyren-2-yl)
 (perfluorofluorenyl) (4,5,6-trifluoronaphthyl) (perfluorophenyl)aluminate]⁻/ (4-n-propylphenyl)
 (4-isopropylphenyl)silylenebis(fluorenyl) hafnium di-t-butyl; [trityl]⁺[(8-{isopropyl(tri-n-
 propylsilylhexyl) (triethylsilylhexyl)siloxy}perfluoronaph-3-yl) (2',3',4'-trifluorobiphenyl)
 (5,6,7,8-tetrafluoronaphthyl) (perfluoropyrenyl)borate]⁻/ di(4-n-propylphenyl)methylene (2,7-
 di-t-butyl-5-methylfluorenyl) (fluorenyl) hafnium dimethyl; [trityl]⁺[(8-{tri-(isopropyl)siloxy}-
 perfluoronaph-3-yl) (4,5,6,7-tetrafluoronaphthyl) (perfluorobiphenyl) (2,3,6-
 trifluorophenyl)aluminate]⁻/ (pentamethylcyclopentadienyl) (cyclopentadienyl)zirconium
 dimethyl; [trityl]⁺[(8-{tri-(isopropyl)siloxy}perfluoronaph-3-yl) (4,5,6,7-tetrafluoronaphthyl)
 (perfluorobiphenyl) (2,3,6-trifluorophenyl)aluminate]⁻/

dimethylsilyl(tetramethylcyclopentadienyl) (t-butylamido) zirconium dimethyl; [trityl]⁺[(8-{tri-
 (isopropyl)siloxy}perfluoronaph-3-yl) (4,5,6,7-tetrafluoronaphthyl) (perfluorobiphenyl) (2,3,6-
 trifluorophenyl)aluminate]⁻/ methylene bis(fluorenyl) hafnium dimethyl; [trityl]⁺[(8-{tri-
 (isopropyl)siloxy}perfluoronaph-3-yl) (5,6,7,8-tetrafluoronaphthyl) (perfluorophenyl)
 (perfluorofluorenyl)borate]⁻/ (4-alkylphenyl) (4-t-butylphenyl)methylene(cyclopentadienyl)
 (fluorenyl) hafnium dimethyl; [trityl]⁺[(8-{tri-(isopropyl)siloxy}perfluoronaph-3-yl)
 (perfluorobiphenyl) (5,6,7,8-tetrafluoronaphthyl) (perfluorophenyl)borate]⁻/ diphenylmethylene
 (cyclopentadienyl) (2,7-dimethyl fluorenyl) hafnium dimethyl; [trityl]⁺[(8-{tri-(isopropyl)siloxy}-
 perfluoronaph-3-yl) (perfluorobiphenyl) (perfluorofluorenyl) (2',3',5'-
 trifluorobiphenyl)aluminate]⁻/ (4-n-butylphenyl) (4-t-butylphenyl)methylene(2,7-dimethyl-
 fluorenyl) (indenyl) hafnium dibenzyl; [trityl]⁺[(8-{tri-(isopropyl)siloxy}perfluoronaph-3-yl)
 (perfluorobiphenyl) (perfluorofluorenyl) (2',3',5'-trifluorobiphenyl)aluminate]⁻/

methylphenylmethylene bis(fluorenyl) hafnium dimethyl; [trityl]⁺[(8-{tri-(isopropyl)siloxy}-

perfluoronaphth-3-yl)bis(5,6,7,8-tetrafluoronaphthyl) (2,3,4-trifluorophenyl)borate]⁻/ dimethylsilyl bis(naphthylmethylindenyl) hafnium dimethyl; [trityl]⁺[(8-{tri-(isopropyl)siloxy}-perfluoropyren-2-yl) (2,3,6-trifluorophenyl) (perfluoroanthracenyl) (pentafluoropyrenyl)borate]⁻ / dimethylsilyl bis(methylindenyl) hafnium dimethyl; [trityl]⁺[(8-{tri-(isopropyl)siloxy}-perfluoropyren-2-yl) (4,5,6-trifluoronaphthyl) (perfluorophenyl) (pentafluoroanthracenyl)borate]⁻ / dimethylsilyl-bisindenyl hafnium dimethyl; [trityl]⁺[(8-{tri-(isopropyl)siloxy}perfluoropyren-2-yl) (perfluorobiphenyl) (5,6,7,8-tetrafluoronaphthyl) (perfluoropyrenyl)aluminate]⁻ / (4-alkylphenyl) (4-t-butylphenyl)methylene(cyclopentadienyl) (fluorenyl) hafnium dimethyl; [trityl]⁺[(8-{tri-(isopropyl)siloxy}perfluoropyren-2-yl) (perfluorobiphenyl) (perfluoronaphthyl) (pentafluoropyrenyl)borate]⁻ / (4-n-butylphenyl) (4-t-butylphenyl)methylene(fluorenyl) (indenyl) hafnium dimethyl; [trityl]⁺[(8-{tri-(isopropyl)siloxy}-perfluoropyren-2-yl) (perfluorobiphenyl) (perfluoronaphthyl) (pentafluoropyrenyl)borate]⁻ / dimethylsilyl bis(indenyl) hafnium dimethyl; [trityl]⁺[(8-{tri-(isopropyl)siloxy}perfluoropyren-2-yl)bis(pentafluoroanthracenyl) (perfluorofluorenyl)borate]⁻ / di(4-n-butylphenyl)methylene (2,7-dimethyl fluorenyl) (cyclopentadienyl) hafnium dibenzyl; [trityl]⁺[(8-{tri-(isopropyl)siloxy}-perfluoropyren-2-yl)bis(pentafluoroanthracenyl) (perfluorofluorenyl)borate]⁻ / di(4-n-butylphenyl)methylene (2,7-dimethyl fluorenyl) (cyclopentadienyl) hafnium dimethyl; [trityl]⁺[(8-{tri-(isopropyl)siloxy}perfluoropyren-2-yl)bis(pentafluoroanthracenyl) (perfluorofluorenyl)borate]⁻ / dimethylsilyl bis(2-methyl-4-phenyl-indenyl) hafnium dimethyl; [trityl]⁺[(8-{tri-(isopropyl)siloxy}perfluoropyren-2-yl)bis(perfluorobiphenyl) (perfluorofluorenyl)borate]⁻ / di(4-n-butylphenyl)methylene (2,7-dimethyl fluorenyl) (cyclopentadienyl) hafnium dimethyl

EXAMPLES

The following examples illustrate the foregoing discussion. All parts, proportions and percentages are by weight unless otherwise indicated. All examples were carried out in dry, oxygen-free environments and solvents. Although the examples may be directed to certain invention embodiments, they do not limit the invention in any specific respect. In these examples certain abbreviations are used. These include standard chemical abbreviations for the elements and certain commonly accepted abbreviations, such as : Me = methyl, Et = ethyl, n-Pr = normal-propyl, t-Bu = tertiary-butyl, Ph = phenyl, pfp = pentafluorophenyl, Cp = cyclopentadienyl, Ind =

indenyl, Flu = fluorenyl, TMS = trimethylsilyl, TES = triethylsilyl and THF (or thf) = tetrahydrofuran.

All molecular weights are weight average unless otherwise noted. Molecular weights (weight average molecular weight (Mw) and number average molecular weight (Mn) were measured by Gel Permeation Chromatography (GPC) using a Waters 150 Gel Permeation Chromatograph equipped with a differential refractive index (DRI) and low angle light scattering (LS) detectors and were calibrated using polystyrene standards. Samples were run in 1,2,4-trichlorobenzene (135°C) using three Polymer Laboratories PC Gel mixed B columns in series. This general technique is discussed in "Liquid Chromatography of Polymers and Related Materials III" J. Cazes Ed., Marcel Decker, 1981, page 207. No corrections for column spreading were employed; however, data on generally accepted standards, e.g. National Bureau of Standards Polyethylene 1475, demonstrated a precision with 0.2 units for Mw/Mn as calculated from elution times.

Catalyst Preparation

Example 1.

Synthesis of $\text{HC}_6\text{F}_4\text{OSi}(\text{iPr})_3$: One equivalent of potassium hydride suspended in THF was added to a THF solution of 2,3,5,6-tetrafluorophenol (5 grams). Gas evolved. After stirring for 1 hour, one equivalent of triisopropylchlorosilane was added. Then, the reaction was stirred for 16 hours. After this, the solvent was replaced with pentane. Next, the resulting precipitate was filtered off. The product was purified by column chromatography (silica gel, hexanes): yield = 6.864 grams, 71 %. ^1H NMR (CDCl_3 , 25° C): δ 6.65 (m, 1H), 1.29 (hp, 3H), 1.09 (d, 18H). ^{19}F NMR (CDCl_3 , 25° C): δ -142.4 (m, 2F), -159.1 (m, 2F).

Example 2.

Synthesis of $[\text{Li}(\text{Et}_2\text{O})_{2.5}][\text{B}(\text{C}_6\text{F}_4\text{OSi}(\text{iPr})_3)_4]$: One equivalent of BuLi (1.6 M, hexane) was added to a cold diethyl ether solution of $\text{HC}_6\text{F}_4\text{OSi}(\text{iPr})_3$ (6.864 grams). After stirring for 1 hour, one quarter equivalent of boron trichloride was added. The solution was allowed to slowly reach room temperature, and then was stirred for 16 hours. LiCl was filtered off. The solution that passed through the filter was reduced to approximately 30% of its original volume, and pentane was added to cause precipitation. The mixture was chilled at -35° C for 16 hours, and the product

was filtered off ($\text{B}[\text{C}_6\text{F}_4\text{OSi}(\text{iPr})_3]_4\text{Li}(\text{Et}_2\text{O})_{2.5}$): yield = 6.804 grams, 86 %. ^1H NMR (CDCl_3 , 25°C): δ 3.42 (q, 10H), 1.27 (hp, 12H), 1.15 (t, 15H), 1.05 (d, 72H). ^{19}F NMR (CDCl_3 , 25°C): δ -135.9 (m, 2F), -163.8 (m, 2F).

Example 3.

Synthesis of $[\text{C}_6\text{H}_5\text{N}(\text{Bu})_2\text{H}][\text{B}(\text{C}_6\text{F}_4\text{OSi}(\text{iPr})_3)_4]$: One equivalent of $\text{C}_6\text{H}_5\text{N}(\text{Bu})_2\text{HCl}$ in dichloromethane was added to a dichloromethane solution of ($\text{B}[\text{C}_6\text{F}_4\text{OSi}(\text{iPr})_3]_4\text{Li}(\text{Et}_2\text{O})_{2.5}$) (5.974 grams). The reaction was stirred for 2 hours. LiCl was filtered off, and the solution volume was reduced to approximately 30 %. Pentane was added to cause precipitation. The mixture was chilled to -35°C for 16 hours. The product was filtered off. $[\text{C}_6\text{H}_5\text{N}(\text{Bu})_2\text{H}][\text{B}(\text{C}_6\text{F}_4\text{OSi}(\text{iPr})_3)_4]$: yield = 5.488 grams, 91 %. ^1H NMR (Toluene- d_8 , 25°C): δ 7.29 (t, 2H), 7.12 (t, 1H), 6.88 (d, 2H), 3.15 (4H), 1.36-0.80 (m, 98H). ^{19}F NMR (Toluene- d_8 , 25°C): δ -129.6 (d, 8F), -157.0 (d, 8F).

Polymerization reactions

Ethylene and propylene were copolymerized in a 2 liter, continuous stirred tank reactor operating at 100°C using bis(*para*-triethylsilyl-phenyl) methylene (2, 7-(di-*tert*-butyl) fluorenyl) (cyclopentadienyl) hafnium dimethyl as the metallocene catalyst. The compound of Example 3 was the cocatalyst activator. Runs 1 and 2 of Tables 1a and 1b are representative. For Run 1, the catalyst system was preactivated in toluene. For Run 2, the catalyst system was preactivated in hexane. The collection times listed on Table 1 ("Time") refer to the time after which the polymer solutions were collected. A 25% (wt) solution of tri-*n*-octyl aluminium was used as scavenger. The scavenger-to-catalyst ratio for these key reactions was 17. The polymers were precipitated with isopropyl alcohol and dried in a vacuum oven at 75°C . The ethylene percentages in the samples were determined by IR (calibrated to NMR).

Table 1a. Copolymerization Reactions of Ethylene and Propylene.

Run	Conc ¹	Time ²	poly rate ³	%C ²	C2=feed	C3=feed	catalyst feed	2=Conv ⁴	C3=Conv ⁴
	%	min	g/hr	in EP	g/hr	g/hr	g/hr	%	%
1	5.6	30	216	73.5	198	114	0.0145	80.3	50.3
2	5.7	30	219	73.5	198	114	0.0138	81.4	51.0

¹ Weight percent of polymer in solution.² Time collecting sample.³ The rate at which polymer was produced.⁴ Percent of monomers converted.

Table 1b. Copolymerization Reactions of Ethylene and Propylene.

Run	Wt. ⁵ G	Catalyst productivity Kg/mole	Mn ⁶ (x10 ⁻³) Daltons	PDI ⁶
1	1931	14146	102	1.63
2	1924.7	15038	94	1.67

⁵ Grams of polymer solution collected during the time given on column 3 of Table 1a.⁶ Determined by GPC.

While certain representative embodiments and details have been provided in order to illustrate the invention, it will be apparent to skilled artisans that various process and product changes from those disclosed in this specification may be made without departing from this invention's scope, which the appended claims define.

All patents, test procedures, and other documents cited in this specification are fully incorporated by reference to the extent that this material is consistent with the specification and for all jurisdictions in which such incorporation is permitted.

CLAIMS:

1. An ionic composition of matter comprising a positively charged cation $[Ct]^+$ and a negatively charged anion $[A]^-$, said anion comprising a central core Group 13 element to which are bound fluoroaryl ligands, at least one of said fluoroaryl ligands being substituted in the para-position with a siloxy group represented by the symbols $-OSiR_3$, wherein each R is independently a $C_1 - C_{30}$ hydrocarbyl or hydrocarbylsilyl substituent.
2. The ionic composition of matter of claim 1 represented by the formula:
 $[Ct]^+ [M(ArF)_n ((ArF)OSiR_3)_{4-n}]^-$,
 where $[Ct]^+$ is cation capable of abstracting an alkyl group, or breaking a carbon-metal bond, from organometallic compounds containing such, M is boron or aluminum, ArF is a fluorinated aryl group, each R is a $C_1 - C_{20}$ hydrocarbyl or hydrocarbylsilyl substituent attached to the Si atom through a secondary or tertiary carbon atom, and n is 0-3.
3. The composition according to claim 2 where $[Ct]^+$ is selected from the group consisting of anilinium and ammonium cations, trityl carbenium cations, Group 12 metal cations, silylium cations, the cations of the hydrated salts of Group 1 or 2 metals, and derivatives of the foregoing anilinium, ammonium, trityl carbenium, and silylium cations containing $C_1 - C_{20}$ hydrocarbyl, hydrocarbylsilyl, or hydrocarbylamine substituents for one or more hydrogen atoms of said cations.
4. The composition of claim 3 wherein ArF is a fluorinated or perfluorinated atyl group wherein said aryl group is selected from the group consisting of phenyl, biphenyl, and naphthyl.
5. The composition of claim 4 wherein each R is a $C_1 - C_{10}$ a linear, branched or cyclic aliphatic hydrocarbyl or hydrocarbylsilyl substituent.
6. The composition of claim 5 wherein at least one R is alkyltrialkylsilyl, said alkyl groups of the trialkylsilyl groups being the same or different and containing from 1 to 20 carbon atoms.
7. The composition of matter of claim 5 wherein said Group 13 element is boron or aluminum and said fluoroaryl ligands are perfluorophenyl.

8. The composition of matter of claim 7 wherein each of said fluoroaryl ligands are para-substituted with said siloxy group replacing the para-fluorine atom.
9. A composition of matter represented by the formula:

$$[Ct]^+ [M(ArF)_n ((ArF)OSiR_3)_{4-n}]^-$$
 where $[Ct]^+$ is cation capable of abstracting an alkyl group, or breaking a carbon-metal bond, of organometallic compounds containing such, M is boron or aluminum, ArF is a fluorinated aryl group, each R is a $C_1 - C_{30}$ hydrocarbyl or hydrocarbylsilyl substituent, and n is 0-3.
10. The composition of claim 9 wherein ArF is a perfluorinated aryl group wherein said aryl group is selected from the group consisting of phenyl, biphenyl, and naphthyl.
11. The composition of claim 10 wherein each R independently is a $C_1 - C_{20}$ a linear, branched or cyclic aliphatic hydrocarbyl or hydrocarbylsilyl substituent.
12. The composition of claim 11 wherein each R is attached to Si by a secondary or tertiary carbon atom.
13. The composition according to claim 11 where $[Ct]^+$ is selected from the group consisting of anilinium and ammonium cations, trityl carbenium cations, Group 11 metal cations, silylium cations, the cations of the hydrated salts of Group 1 or 2 metals, and derivatives of the foregoing anilinium, ammonium, trityl carbenium, and silylium cations containing $C_1 - C_{20}$ hydrocarbyl, hydrocarbylsilyl, or hydrocarbylamine substituents for one or more hydrogen atoms of said cations.
14. A composition of matter represented by the formula:

$$[Ct]^+ [M(ArF)_n ((ArF)OSiR_3)_{4-n}]^-$$
 where $[Ct]^+$ is an anilinium and ammonium cation, ArF is a fluorinated aryl group selected from the group consisting of phenyl, biphenyl and naphthyl, each R is a $C_1 - C_{20}$ hydrocarbyl substituent attached to the Si atom through a secondary carbon atom, and n is 0-3.
15. The composition of claim 14 wherein $n=0$ and each R is isopropyl.