CLAIMS

~~1. Platinum complex of the type $[L1L2Pt[O(CO)R1]X]_n$,~~
~~wherein L1 and L2 represent the same or different monoolefin ligands, or together represent a compound L1L2 acting as a diolefin ligand,~~
~~wherein X is selected from bromide, chloride, iodide, and -O(CO)R2,~~
~~wherein -O(CO)R1 and -O(CO)R2 represent the same or different C6-C18-or C8-C18 non-aromatic monocarboxylic acid groups with the respective exception of a phenylacetic acid group, or together represent a C8-C18 non-aromatic dicarboxylic acid group -O(CO)R1R2(CO)O-,~~
~~wherein it is a mononuclear platinum complex with n = 1, or wherein, in the event of the presence of L1L2 and/or -O(CO)R1 R2(CO)O-, it may be a polynuclear platinum complex with a whole number n > 1.~~

~~2. Platinum complex according to claim 1, wherein L1L2 represents a compound acting as a diolefin ligand,~~
~~wherein X is selected from bromide, chloride, iodide, and -O(CO)R2,~~
~~wherein -O(CO)R1 and -O(CO)R2 represent the same or different C6-C18 or C8-C18 non-aromatic monocarboxylic acid groups with the respective exception of a phenylacetic acid group, wherein they are mononuclear platinum complexes with n = 1 or polynuclear platinum complexes with a whole number n > 1.~~

~~3. Platinum complex according to claim 1 or 2, wherein whole number n > 1 is in the range from 2 to 5.~~

~~4. Platinum complex according to claim 1, 2, or 3 in individualized or combined form.~~

1~~5~~. Platinum complex of the type $[(COD)Pt[O(CO)R1]_2]_n$ or $[(NBD)Pt[O(CO)R1]_2]_n$, wherein n is 1 or 2, and wherein R1 stands for a C5-C17 or C7-C17 non-aromatic hydrocarbon group with the exception of benzyl.

2~~6~~. Method for producing platinum complexes according to ~~any of the preceding~~ claim 1~~s~~ via ligand exchange, comprising emulsifying a two-phase system, wherein one phase comprises an at least substantially water-immiscible organic solution of a reactant of the

type $[L1L2PtX_2]_n$ with X selected from bromide, chloride, and iodide; and wherein the other phase comprises an aqueous solution of alkali and/or magnesium salt of a monocarboxylic acids correspondingly selected among R1COOH, wherein L1L2 means COD or NBD and optionally R2COOH, or a dicarboxylic acid HOOCR1R2COOH.

37. Use of one or more platinum complexes according to any of claims 1 to 5, or obtainable via a method according to claim 26, for producing a platinum layer on a substrate.

48. Use according to claim 37, wherein the substrate is a temperature-sensitive substrate.

59. Use according to claim 37 or 48, comprising the provision of an organic solution of the platinum complex or complexes, application of the organic solution directly to a substrate or as a component of a preparation having at least one further component, and heating of the applied coating to an object temperature above the decomposition temperature of the platinum complex or complexes.