

CLAIMS

1. A method for associating an at least one olfactory tonality to an olfactory receptor comprising:
 - (a) providing an olfactory receptor;
 - 5 (b) contacting the olfactory receptor and a compound having at least one known tonality;
 - (c) determining whether the compound activates the olfactory receptor;
 - (d) repeating steps (b) and (c) with a compound having at least one known tonality, wherein the compound of step (d) is different than the compound of the
 - 10 preceding iterations of steps (b) and (c);
 - (e) categorizing as a subset, the compounds from steps (b) through (d) that activate the olfactory receptor;
 - (f) identifying an at least one tonality common to the subset of compounds; and
 - (g) assigning the identified at least one tonality to the olfactory receptor.
- 15 2. A method for screening at least one compound having a particular tonality comprising:
 - (a) providing an olfactory receptor having the identified at least one tonality of claim 1;
 - (b) contacting the olfactory receptor with an at least one compound;
 - 20 (c) determining whether the at least one compound activates the olfactory receptor;
 - (d) associating the at least one compound to the identified at least one tonality if the at least one compound activates the olfactory receptor.
- 25 3. The method of claim 2, wherein a plurality of olfactory receptors, each having a different identified at least one tonality, is provided in step (a) and a plurality of identified tonalities is associated in step (d) to the compound or combination of compounds that activate the plurality of olfactory receptors according to steps (b) and (c).

4. A method for screening at least one compound for an earthy tonality comprising:
- (a) providing a polypeptide comprising an amino acid sequence having at least 90% sequence identity to SEQ ID NO:11;
 - (b) contacting the polypeptide with the at least one compound;
 - 5 (c) determining whether the at least one compound activates the polypeptide; and
 - (d) associating an earthy tonality to the at least one compound if the at least one compound activates the polypeptide;
- wherein the polypeptide is an olfactory receptor.
5. A method for screening at least one compound for a coumarinic tonality comprising:
- 10 (a) providing a polypeptide comprising an amino acid sequence having at least 90% sequence identity to SEQ ID NO:13;
 - (b) contacting the polypeptide with the at least one compound;
 - (c) determining whether the at least one compound activates the polypeptide; and
 - 15 (d) associating a coumarinic tonality to the at least one compound if the at least one compound activates the polypeptide;
- wherein the polypeptide is an olfactory receptor.
6. A method for screening at least one compound for a lactonic coconut tonality comprising:
- 20 (a) providing a polypeptide comprising an amino acid sequence having at least 90% sequence identity to SEQ ID NO:15;
 - (b) contacting the polypeptide with the at least one compound;
 - (c) determining whether the at least one compound activates the polypeptide; and
 - 25 (d) associating an lactonic coconut tonality to the at least one compound if the at least one compound activates the polypeptide;
- wherein the polypeptide is an olfactory receptor.

7. A method for screening at least one compound for a fenugreek tonality comprising:
- (a) providing a polypeptide comprising an amino acid sequence having at least 90% sequence identity to SEQ ID NO:17;
 - (b) contacting the polypeptide with the at least one compound;
 - 5 (c) determining whether the at least one compound activates the polypeptide; and
 - (d) associating a fenugreek tonality to the at least one compound if the at least one compound activates the polypeptide;
- wherein the polypeptide is an olfactory receptor.
8. A method for screening at least one compound for a powdery musk tonality
- 10 comprising:
- (a) providing a polypeptide comprising an amino acid sequence having at least 90% sequence identity to SEQ ID NO:19;
 - (b) contacting the polypeptide with the at least one compound;
 - (c) determining whether the at least one compound activates the polypeptide; and
 - 15 (d) associating a powdery musk tonality to the at least one compound if the at least one compound activates the polypeptide;
- wherein the polypeptide is an olfactory receptor.
9. A method for screening at least one compound for an animalic musk tonality comprising:
- 20 (a) providing a polypeptide comprising an amino acid sequence having at least 90% sequence identity to SEQ ID NO:21;
 - (b) contacting the polypeptide with the at least one compound;
 - (c) determining whether the at least one compound activates the polypeptide; and
 - (d) associating an animalic musk tonality to the at least one compound if the at least one compound activates the polypeptide;
 - 25
- wherein the polypeptide is an olfactory receptor.

10. A method for screening at least one compound for a violet tonality comprising:
- (a) providing a polypeptide comprising an amino acid sequence having at least 90% sequence identity to SEQ ID NO:23;
 - (b) contacting the polypeptide with the at least one compound;
 - 5 (c) determining whether the at least one compound activates the polypeptide; and
 - (d) associating a violet tonality to the at least one compound if the at least one compound activates the polypeptide;
- wherein the polypeptide is an olfactory receptor.
11. A method for screening at least one compound for a blonde wood comprising:
- 10 (a) providing a polypeptide comprising an amino acid sequence having at least 90% sequence identity to SEQ ID NO:25;
 - (b) contacting the polypeptide with the at least one compound;
 - (c) determining whether the at least one compound activates the polypeptide; and
 - 15 (d) associating a blonde wood tonality to the at least one compound if the at least one compound activates the polypeptide;
- wherein the polypeptide is an olfactory receptor.
12. A method for screening at least one compound for a muguet tonality comprising:
- (a) providing a polypeptide comprising an amino acid sequence having at least 90% sequence identity to SEQ ID NO:27;
 - 20 (b) contacting the polypeptide with the at least one compound;
 - (c) determining whether the at least one compound activates the polypeptide; and
 - (d) associating a muguet tonality to the at least one compound if the at least one compound activates the polypeptide;
- wherein the polypeptide is an olfactory receptor.

13. A method for screening at least one compound for a linalic tonality comprising:
- (a) providing a polypeptide comprising an amino acid sequence having at least 90% sequence identity to SEQ ID NO:29;
 - (b) contacting the polypeptide with the at least one compound;
 - 5 (c) determining whether the compound or combination of compounds activates the polypeptide; and
 - (d) associating a linalic tonality to the at least one compound if the at least one compound activates the polypeptide;
- wherein the polypeptide is an olfactory receptor.
- 10 14. A method for screening at least one compound for a jasmine tonality comprising:
- (a) providing a polypeptide comprising an amino acid sequence having at least 90% sequence identity to SEQ ID NO:31;
 - (b) contacting the polypeptide with the at least one compound;
 - 15 (c) determining whether the compound or combination of compounds activates the polypeptide; and
 - (d) associating a jasmine tonality to the at least one compound if the at least one compound activates the polypeptide;
- wherein the polypeptide is an olfactory receptor.
15. At least one compound identified by the methods according to any one of claims 2 to
- 20 14.