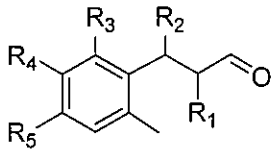
Claims

1. An aryl-substituted alkanal compound having a molecular weight of less than 300 g/mol and which bears a substituent on the aryl ring *ortho* to a substituent bearing the aldehyde functionality, represented by the formula 3



Formula 3

wherein

R_1, R_2, and R_3 each independently represents H or methyl;

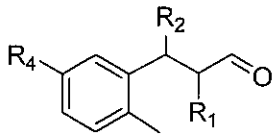
R_4 is H, or when R_5 is H, R_4 is an iso-butyl, sec-butyl or linear, saturated or unsaturated, unsubstituted or substituted (optionally with cyclopropyl groups) C_5-C_7 alkyl or alkenyl residue; and

R_5 is H, or when R_4 is H, R_5 is an iso-butyl, sec-butyl or linear, saturated or unsaturated, unsubstituted or substituted (optionally with cyclopropyl groups) C_5-C_7 alkyl or alkenyl substituent;

wherein said aryl-substituted alkanal compound is not 3-(5-(tert-butyl)-2-methylphenyl)propanal, 3-(5-(tert-butyl)-2-methylphenyl)-2-methylpropanal, 3-(5-isopropyl-2-methylphenyl)propanal, 3-(5-isopropyl-2-methylphenyl)-2-methylpropanal, 3-(5-ethyl-2-methylphenyl)propanal, 3-(5-ethyl-2-methylphenyl)-2-methylpropanal, 3-(4-(tert-butyl)-2-methylphenyl)propanal, 3-(4-(tert-butyl)-2-methylphenyl)-2-methylpropanal, 3-(4-isopropyl-2-methylphenyl)propanal, 3-(4-isopropyl-2-methylphenyl)-2-methylpropanal, 3-(4-ethyl-2-methylphenyl)propanal, 3-(4-ethyl-2-methylphenyl)-2-

methylpropanal, or a compound of formula 3 wherein R_1 through R_5 is independently H or methyl.

2. A compound according to claim 1 represented by the formula 4



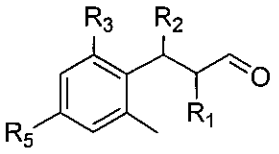
Formula 4

wherein

R_1 and R_2, each independently represents H or methyl; and

R_4 represents an iso-butyl or sec-butyl group, or a saturated or unsaturated C_5-C_7 alkyl or alkenyl radical, which may be unsubstituted or substituted, optionally with cyclopropyl groups.

3. A compound according to claim 1 represented by the formula 5



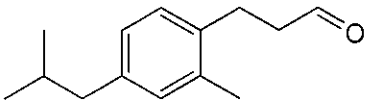
Formula 5

wherein

R_1, R_2, and R_3 each independently represents H or methyl; and

R_5 is a an iso-butyl or sec-butyl group, or a saturated or unsaturated C_5-C_7 alkyl or alkenyl residue, which may be unsubstituted or substituted, optionally with cyclopropyl groups.

4. A compound according to claim 1 represented by the formula



5. A compound according to claim 1 selected from the group consisting of 3-(4-isobutyl-2-methylphenyl)propanal, 3-(4-isobutyl-2,6-dimethylphenyl)propanal, 3-(4-isobutyl-2-methylphenyl)-2-methylpropanal, 3-(4-isobutyl-2-methylphenyl)butanal, 3-(4-(sec-butyl)-2-methylphenyl)propanal, 3-(2-methyl-4-(tert-pentyl)phenyl)propanal, 3-(4-isopentyl-2-methylphenyl)propanal, 3-(2-methyl-4-(4-methylpentyl)phenyl)propanal, 3-(2-methyl-5-(4-methylpentyl)phenyl)propanal, 3-(5-isopentyl-2-methylphenyl)propanal, 3-(5-isopentyl-2-methylphenyl)-2-methylpropanal, 3-(5-isobutyl-2-methylphenyl)-2-methylpropanal, 2-methyl-3-(2-methyl-5-(4-methylpentyl)phenyl)propanal, 3-(5-isobutyl-2-methylphenyl)propanal, 3-(2-methyl-4-(2-methylbutyl)phenyl)propanal, 3-(2-methyl-5-(4-methylpentyl)phenyl)propanal, 3-(5-isopentyl-2-methylphenyl)propanal, 3-(5-isopentyl-2-methylphenyl)-2-methylpropanal, 3-(5-isobutyl-2-methylphenyl)-2-methylpropanal, 2-methyl-3-(2-methyl-5-(4-methylpentyl)phenyl)propanal, 3-(5-isobutyl-2-methylphenyl)propanal, 3-(4-isobutyl-2-methylphenyl)propanal, 3-(4-isobutyl-2,6-dimethylphenyl)propanal, 3-(4-isobutyl-2-methylphenyl)-2-methylpropanal, 3-(4-isobutyl-2-methylphenyl)butanal, 3-(4-(sec-butyl)-2-methylphenyl)propanal, 3-(2-methyl-4-(tert-pentyl)phenyl)propanal, 3-(4-isopentyl-2-methylphenyl)propanal and 3-(2-methyl-4-(4-methylpentyl)phenyl)propanal.

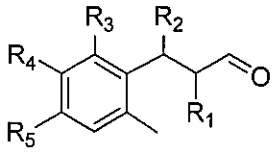
6. The use of a compound according to any of the preceding claims as a perfume ingredient exhibiting muguet odour characteristics.

7. A perfume composition comprising a compound as defined in any of the claims 1 through 5, which composition is free of any aryl-substituted alkanal,

more particularly aryl-substituted propanal, odourants that are unsubstituted on the aryl ring at a position *ortho* to the substituent bearing the aldehyde functionality.

8. A personal care or household care composition perfumed with an aryl-substituted alkanal compound according to any of the claims 1 to 5.

9. A personal care or household care composition according to claim 8 perfumed with a compound represented by the formula 3



Formula 3

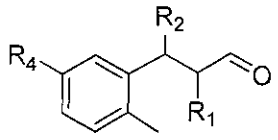
wherein

R_1, R_2, and R_3 each independently represents H or methyl;

R_4 is H, or when R_5 is H, R_4 is an iso-butyl, sec-butyl or linear, saturated or unsaturated, unsubstituted or substituted (optionally with cyclopropyl groups) C_5-C_7 alkyl or alkenyl group; and

R_5 is H, or when R_4 is H, R_5 is an iso-butyl, sec-butyl or linear, saturated or unsaturated, unsubstituted or substituted (optionally with cyclopropyl groups) C_5-C_7 alkyl or alkenyl group.

10. A personal care or household care composition according to any of the claims 8 to 9 perfumed with a compound represented by the formula



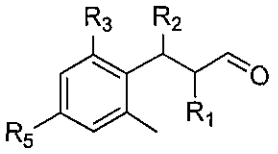
Formula 4

wherein

R_1 and R_2, each independently represents H or methyl; and

R_4 represents an iso-butyl or sec-butyl group, or a saturated or unsaturated C_5-C_7 alkyl or alkenyl residue, which may be unsubstituted or substituted, optionally with cyclopropyl groups.

11. A personal care or household care composition according to any of the claims 8 to 9 perfumed with a compound represented by the formula 5



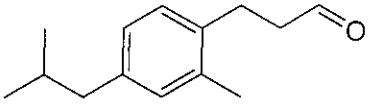
Formula 5

wherein

R_1, R_2, and R_3 each independently represents H or methyl; and

R_5 is a an iso-butyl or sec-butyl group, or a saturated or unsaturated C_5-C_7 alkyl or alkenyl radical, which may be unsubstituted or substituted, optionally with cyclopropyl groups.

12. A personal care or household care composition according to claim 8 perfumed with a compound represented by the formula



13. A personal care or household care composition according to claim 8 perfumed with a compound selected from the group consisting of 3-(4-isobutyl-2-methylphenyl)propanal, 3-(4-isobutyl-2,6-dimethylphenyl)propanal, 3-(4-isobutyl-2-methylphenyl)-2-methylpropanal, 3-(4-isobutyl-2-methylphenyl)butanal, 3-(4-(sec-butyl)-2-methylphenyl)propanal, 3-(2-methyl-4-(tert-pentyl)phenyl)propanal, 3-(4-isopentyl-2-methylphenyl)propanal, 3-(2-methyl-4-(4-methylpentyl)phenyl)propanal, 3-(2-methyl-5-(4-methylpentyl)phenyl)propanal, 3-(5-isopentyl-2-methylphenyl)propanal, 3-(5-isopentyl-2-methylphenyl)-2-methylpropanal, 3-(5-isobutyl-2-methylphenyl)-2-methylpropanal, 2-methyl-3-(2-methyl-5-(4-methylpentyl)phenyl)propanal, 3-(5-isobutyl-2-methylphenyl)propanal, 3-(2-methyl-4-(2-methylbutyl)phenyl)propanal, 3-(4-(tert-butyl)-2-methylphenyl)propanal, 3-(4-isopropyl-2-methylphenyl)propanal, 3-(2-methyl-5-(4-methylpentyl)phenyl)propanal, 3-(5-isopentyl-2-methylphenyl)propanal, 3-(5-isopentyl-2-methylphenyl)-2-methylpropanal, 3-(5-isobutyl-2-methylphenyl)-2-methylpropanal, 2-methyl-3-(2-methyl-5-(4-methylpentyl)phenyl)propanal, 3-(5-isobutyl-2-methylphenyl)propanal, 3-(4-isobutyl-2-methylphenyl)propanal, 3-(4-isobutyl-2,6-dimethylphenyl)propanal, 3-(4-isobutyl-2-methylphenyl)-2-methylpropanal, 3-(4-isobutyl-2-methylphenyl)butanal, 3-(4-(sec-butyl)-2-methylphenyl)propanal, 3-(2-methyl-4-(tert-pentyl)phenyl)propanal, 3-(4-isopentyl-2-methylphenyl)propanal and 3-(2-methyl-4-(4-methylpentyl)phenyl)propanal.

14. A personal care or household care composition according to any of the claims 8 to 13 containing enzymes.

15. A personal or household care composition according to claim 14 characterized in that it is a textile treatment products.

16. A personal or household care composition according to claim 14 or claim 15 characterized in that it is a detergent composition.

17. A method of imparting muguet odour characteristics to a fine fragrance or consumer product comprising the step of adding thereto an aryl-substituted alkanal compound defined in any of the claims 1 through 5, and selectively excluding from said fine fragrance or consumer product any aryl-substituted alkanal compounds, which are unsubstituted on the ring at the position *ortho* to the substituent containing aldehyde functionality, said selective addition or exclusion being based on the susceptibility of said compounds to enzymatically-mediated degradation to their benzoic acid derivatives when incubated with hepatocytes isolated from rats, said compounds being suitable for addition on the basis that they do not degrade to their benzoic acid derivatives, whereas said compounds being excluded on the basis that they do degrade to their benzoic acid derivatives.