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(71) Applicant: NANEXA AB [SE/SE]; Virdings Allé 32B, SE-754 50 Uppsala (SE).

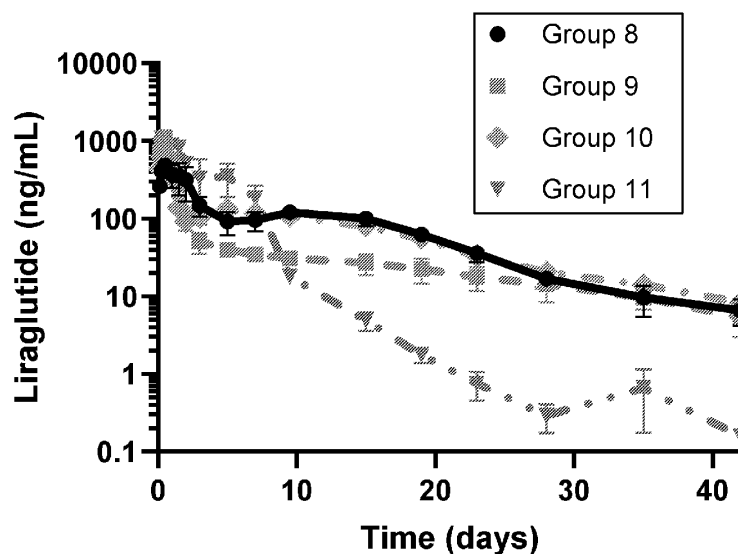
(72) Inventors: JOHANSSON, Anders; Virdings Allé 32B, SE-75450 Uppsala (SE). ROTH, Mårten; Virdings Allé 32B, SE-75450 Uppsala (SE). HELLRUP, Joel; Virdings Allé 32B, SE-75450 Uppsala (SE). WESTBERG, David; Virdings Allé 32B, SE-75450 Uppsala (SE). LINDAHL, Erik; Virdings Allé 32B, SE-75450 Uppsala (SE). HEDGE, Oliver; Virdings Allé 32B, SE-75450 Uppsala (SE). ROUF, Polla; Virdings Allé 32B, SE-75450 Uppsala (SE).

(74) Agent: MCNEENEY, Stephen Phillip; Potter Clarkson, Chapel Quarter, Chapel Bar, Nottingham Nottinghamshire NG1 6HQ (GB).

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(54) Title: NEW PHARMACEUTICAL COMPOSITIONS COMPRISING GLUCAGON-LIKE PEPTIDE-1 RECEPTOR AGONISTS

Figure 9



(57) Abstract: There is provided a pharmaceutical formulation that is useful in the treatment of metabolic disorders or conditions, comprising a plurality of particles suspended in a carrier system, which particles: (a) have a weight-, number-, or volume-based mean diameter that is between amount 10 nm and about 700 µm; and (b) comprise solid cores comprising at least one glucagon-like peptide-1 receptor agonist, or a pharmaceutically-acceptable salt thereof, coated, at least in part, by a coating of inorganic material comprising mixture of: (i) zinc oxide; and (ii) one or more other metal and/or metalloid oxides, wherein the atomic ratio ((i):(ii)) is at least about 1:10 and up to and including about 10:1. Said mixed oxide coated particles are preferably synthesized via a gas phase coating technique, such as atomic layer deposition. The formulation may provide for the delayed or sustained release of glucagon-like peptide-1 receptor agonists to treat metabolic disorders or conditions, such as type 2 diabetes and/or obesity without a burst effect. The glucagon-like

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peptide-I receptor agonist is preferably liraglutide.