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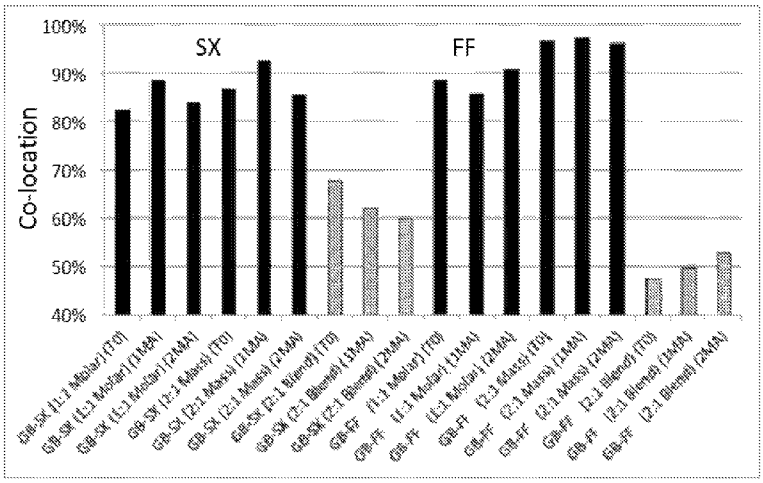
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(54) Title: MULTI-COMPONENT CRYSTALLINE PARTICLES FOR INHALATION THERAPY

Figure 12



(57) Abstract: Pharmaceutical Preparations Multi-component crystalline particles and compositions, methods for their preparation, their uses in inhalation therapy and inhaler devices containing said particles are provided, in particular particles comprising glycopyrrolate. The particles can be prepared substantially free of excipients and agents other than active agents or their precursors in the presence of ultrasonic irradiation in a process comprising contacting a solution in a first flowing stream with an anti-solvent in a re-circulating second flowing stream, causing the mixing thereof and collecting crystals that are generated.

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