2.2.2. Formulation section

Based on formulation technique used in (Elsayed et al., 2009), the current study will formulate the formula (F1) that used in (Elsayed et al., 2009) and also will add new two materials to the old formula (F1) to yield the new formula (F4). Moreover, formulation the old formula with DAG only (F2) to make a reduction in the particle size. In addition, preparation the old formula with HPßCD only (F3) to maximum benefits protection for the formula (Table 2.1).

(Table 2.1): Composition of different preparation of chitosan-insulin PEC particles dispersed in oily system

Name of formula	Composition
F1	**Oily phase:** Oleic acid 80%, Labrasol 10%, Plurol 10% **Aqueous phase:** 25 mg/ml insulin sol 50%, 25 mg/ml chitosan sol 50%. **(2% loading)**
F2	**Oily phase:** Oleic acid 79%, Labrasol 10%, Plurol 10%, DAG 1% **Aqueous phase:** 25 mg/ml insulin sol 50%, 25 mg/ml chitosan sol 50%. **(2% loading)**
F3	**Oily phase:** Oleic acid 80%, Labrasol 10%, Plurol 10% **Aqueous phase:** 25 mg/ml insulin sol (with HPβCD) 50%, 25 mg/ml chitosan sol 50%. **(2% loading)**
F4	**Oily phase:** Oleic acid 79%, Labrasol 10%, Plurol 10%, DAG 1% **Aqueous phase:** 25 mg/ml insulin sol (with HPβCD) 50%, 25 mg/ml chitosan sol 50%. **(2% loading)**