Studies with different patients using magnetic resonance imaging show that a dose of water with a.4 volume varying between about 240 and 250 mL empties rapidly from the fasted human stomach, with a half emptying time (T50%) between approximately 13 and 18 min and complete gastric emptying in 45 min (Mudie et al. 2014, Steingoetter et al. 2006).Although the release results of our formulation were different, it is important to consider that gastrintestinal conditions (GI) can differ among patients and therefore a variety of inter- and intra-individual differences in GI physiology have been reported in the literature, such as variations in gastric emptying, intestinal transit times, composition and volume of fluid available in the different GI sections and in GI motility patterns in both fasted and fed state dosing conditions Table 3 Physicochemical characterization of the formulations before and after enteric coating.It is worth mentioning that in preliminary studies we tested larger concentrations of enteric coating polymer, however, it was observed that they reduced the EE of the drug and the decision was thereby made to use 0.03%, which was able to maintain the characteristics of the formulation.In vitro release The purpose of EL100-55 as an enteric coating is to delay the exposure of OME to an acidic environment, avoiding significant degradation of the drug as well as preventing the reduction of bioavailability (Tawfeek et al. 2017).The in vitro drug release test was carried out for the OERS/EL nanoparticles in simulated gastric fluid (pH 1.2) for 60 min based on the residence time of the formulation in the stomach (Mudie et al. 2014, Steingoetter et al. 2006).Taking into account that OME is administered fasted and at a half emptying time (T50%), in these conditions and with ranges from 13 to 18 min to be completed at a maximum of 45 min arises the suggestion that the nanoparticles proposed in this study arrive at the intestinal transit in less than 1 h, ensuring that less than 10% is released into the stomach. A study that developed nanoparticles of OME using the emulsion diffusion method and EL100-55 as an enteric coating polymer showed less than 10% drug degradation in 0.1 N HCl solution (Hao et al. 2013a).This release behavior can be explained by the pH influence on the EL100-55 polymer solubility and by the ionization of the methacrylic acid carboxylic groups in aqueous medium (pH >= 5.5) (Sauer et al. 2009).Sample D[4,3](v) (nm) Span(v) z-average (nm) PDI EE (%) pH OERS 175 +- 3.51a 2.26 +- 0.20a 166 +- 7.21a 0.213 +- 5.00a 95.8 8.7 +- 0.22a OERS/EL 223 +- 13.05b 2.16 +- 0.20a 174 +- 17.00a 0.229 +- 0.01a 68.1 10.4 +- 0.36b Matching letters within a column indicate no statistical .difference (p >= 0.05).Fig. 3). 3).In this study, 0.03% was used.1

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