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**Supporting information**

# Exploring the impact of surfactant type and digestion: Highly digestible surfactants improve oral bioavailability of nilotinib

*Niklas J. Koehl[1], René Holm[2,3], Martin Kuentz[4], Vincent Jannin[5, †], Brendan T. Griffin[1*]*

[1]School of Pharmacy, University College Cork; T12 YN60 Cork, Ireland

[2]Drug Product Development, Janssen Research and Development, Johnson & Johnson, Turnhoutseweg 30, 2340 Beerse, Belgium

[3]Department of Science and Environment, Roskilde University, 4000 Roskilde, Denmark

[4]University of Applied Sciences and Arts Northwestern Switzerland, Institute of Pharma Technology, 4132 Muttenz, Switzerland

[5]Gattefossé SAS, 36 Chemin de Genas, 69804, Saint-Priest Cedex, France

[†]Current address: Lonza Pharma & Biotech, Parc d'Innovation, Rue Tobias Stimmer – BP 30442–67412 Illkirch Graffenstaden, France

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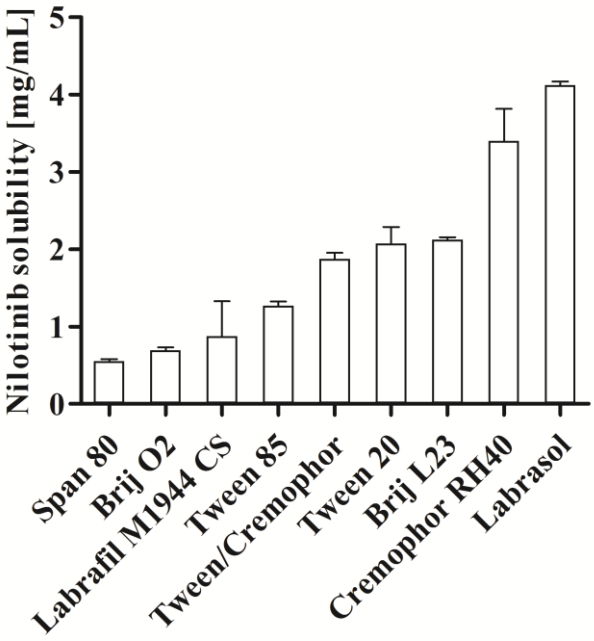



**Figure S1.** Solubility of nilotinib in the selected excipients at 37 °C. Tween/Cremophor is a mixture of Tween 85 and Cremophor RH40 (67:33 w/w). Solubility was measured up to 72 h (mean ± SD, n = 3).

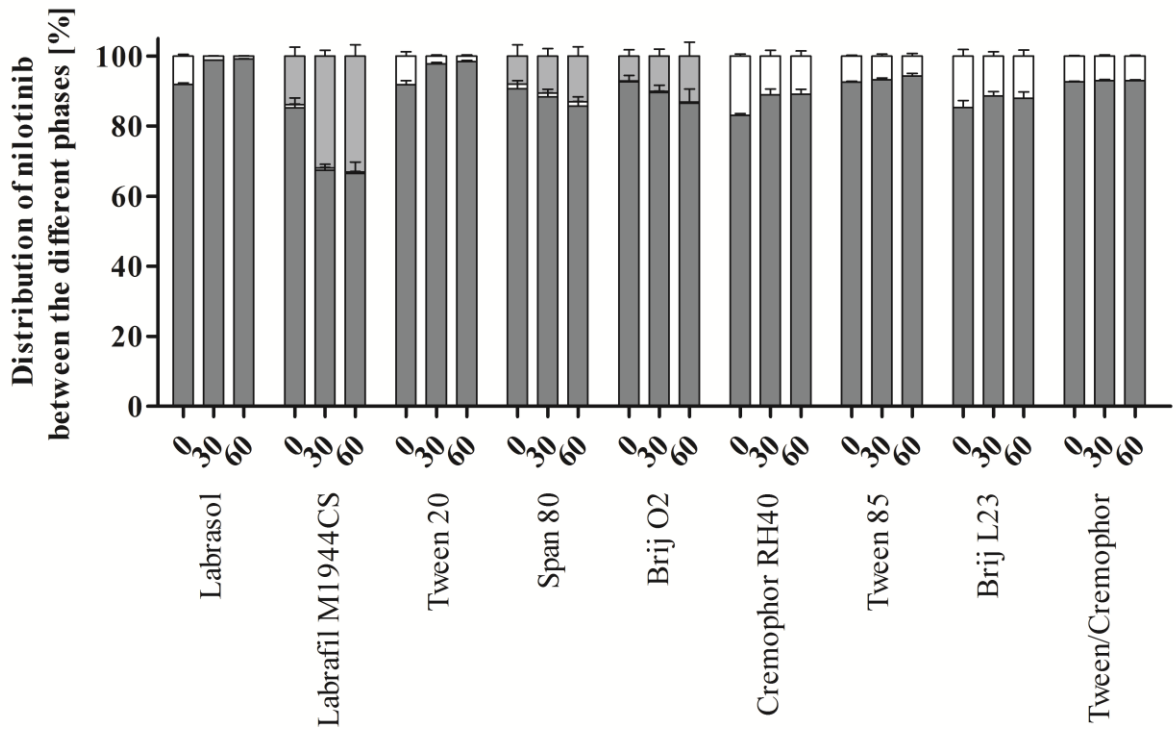



**Figure S2.** Distribution of nilotinib into the solid (dark grey bars), aqueous (white bars) and lipid phase (light grey bars) just before initiation of digestion (0) and after 30 and 60 min of digestion (mean ± SD, n = 3). Tween/Cremophor is a mixture of Tween 85 and Cremophor RH40 (67:33 w/w).

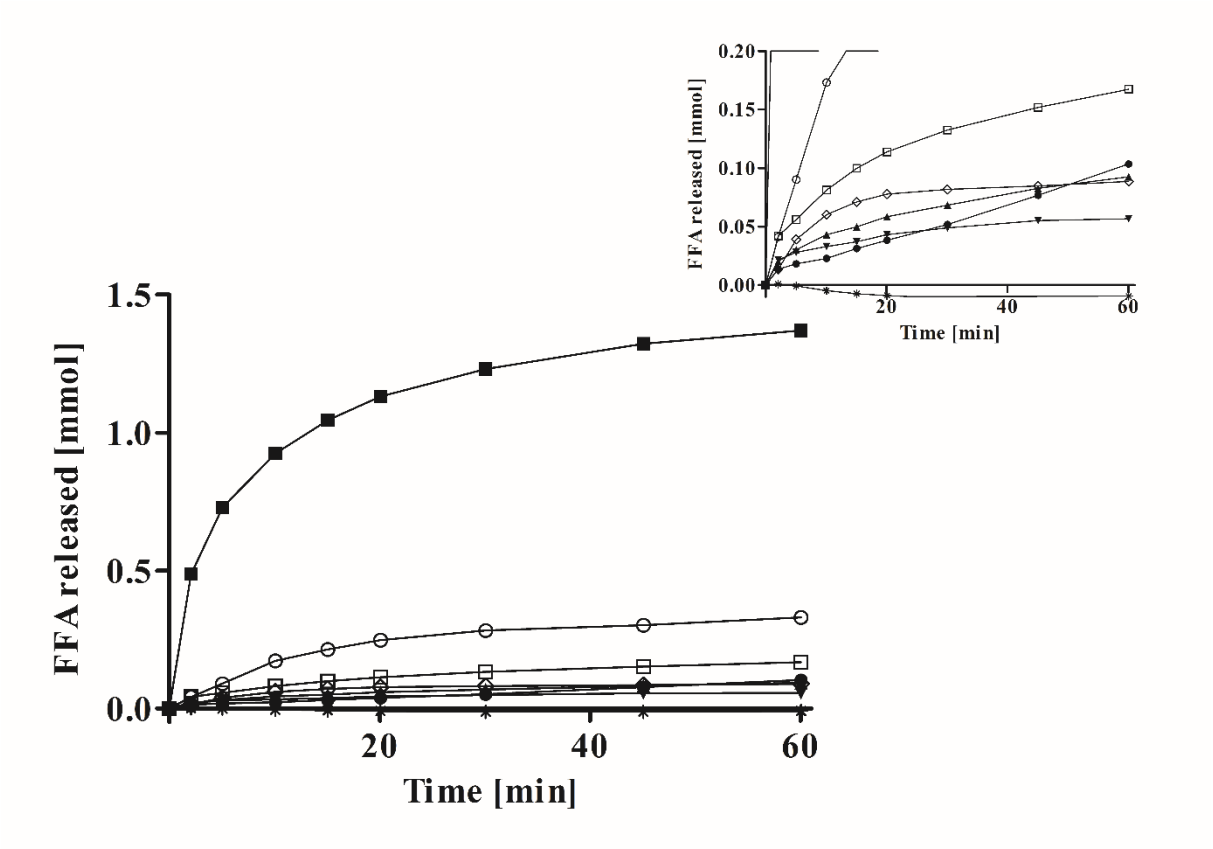



**Figure S3.** FFA released during 60 min of *in vitro* digestion at pH 6.5. The insert provides improved visibility on surfactants releasing less than 0.2 mmol FFAs. Cremophor RH40 (◊), Brij L23 (*), Tween 20 (○), Span 80 (▲), Labrasol (■), Labrafil M1944 CS (□), Tween 85 (●), Brij O2 (×), Tween 85/Cremophor RH40 mixture (67:33 w/w) (▼) (mean ± SD, n = 3).

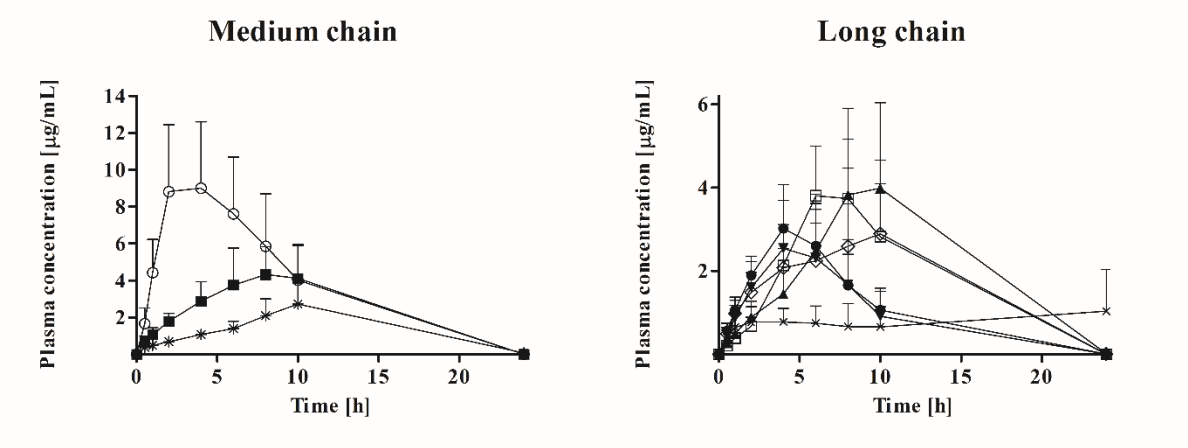



**Figure S4.** Plasma concentration profiles as a function of time for orally administered nilotinib surfactant suspensions dosed at 20 mg/kg and 2 mL surfactant/kg. (mean ± SD, n = 5). Cremophor RH40 (◊), Brij L23 (*), Tween 20 (○), Span 80 (▲), Labrasol (■), Labrafil M1944 CS (□), Tween 85 (●), Brij O2 (×), Tween 85/Cremophor RH40 mixture (67:33 w/w) (▼).

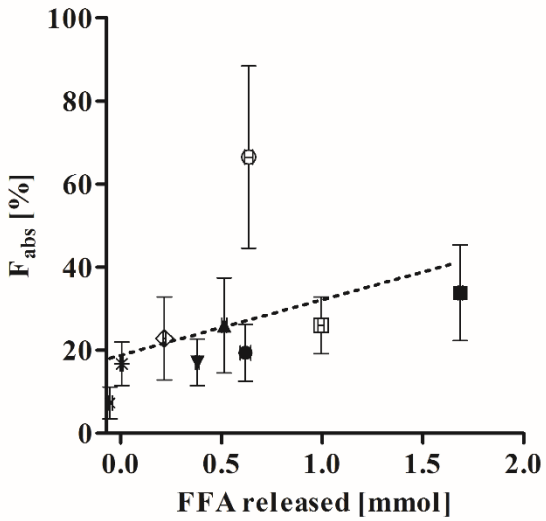



**Figure S5.** Relationship of absolute bioavailability ($F_{abs}$) and free fatty acids (FFA) released during *in vitro* digestion as a surrogate parameter for digestibility of the excipient. Cremophor RH40 (◊), Brij L23 (*), Tween 20 (○), Span 80 (▲), Labrasol (■), Labrafil M1944 CS (□), Tween 85 (●), Brij O2 (×), Tween 85/Cremophor RH40 mixture (67:33 w/w) (▼) (mean ± SD, $F_{abs}$ n = 5, FFA released n = 3).