The exponential correction factor of 0.1707 (unitless) and Lindfors’s parameter of 0.1984 μm were fit to the in vitro data utilizing the DDDPlus biphasic dissolution model. The simulation is shown in Figure 3. The red curve represents the % released of total ITZ 5mg solution dose precipitating down to its estimated crystalline solubility of 0.00189 mg/mL. The green curve represents the % dissolved of ITZ in the organic layer. Initially, the appearance rate is very fast, but reduces dramatically as precipitation occurs. The grey curve represents the precipitate radius in micron. The parameters in Figure 3 were then utilized to predict the in vivo PK of ITZ using the GastroPlus PBPK model built by Szeto. (See graphs labeled “DDDPlus ptt.”) In the in vivo simulations were 200 mg capsule and 1000 mg solution administered in fasted and fed states. The predictions were compared to the simulation results where the mechanistic nucleation and growth model parameters (0.23 and 0.5 μm for the exponential correction factor and Lindfors’s parameter, respectively) were fitted to match the observed PK data in GastroPlus (Figure 4, graphs labeled “G + F PPT”).

**RESULTS CONT.**

Utilizing in vivo precipitation parameters gave reasonable prediction of ITZ PK across all datasets except the 200 mg solution dose in fasted state. For all other doses, the precipitation IVIVE gave results similar to fitting in vivo parameters against observed PK profiles. This shows the ability of more advanced absorptive dissolution tests in extraction of precipitation parameters.

**REFERENCES**

1. Szeto, et al., AAPS Annual Meeting, 2015, Poster W5237
2. Box, et. al., AAPS Annual Meeting 2016, Poster 24W0130