



**Figure S4:** Visual predictive checks of the gallbladder volume time course stratified by test drink. In this case the gallbladder emptying was driven by the total plasma cholecystokinin concentration. The gallbladder volume time course has been stratified by test drink. For each panel, the median (bold lines), 5<sup>th</sup> and 95<sup>th</sup> percentiles (thin lines) of the observed data are compared to the 95 % confidence intervals (shaded areas) for the median (light grey), 5<sup>th</sup> and 95<sup>th</sup> percentiles of the simulated data (green) (based on 1000 simulations). The vertical lines (dashed grey) represent the time of the test drink administration. OGTT: oral glucose tolerance test