* 1. **Hill plot analyses. EC50 determination**

Chloride/nitrate transport assays were carried out using various concentrations of carriers as described. The chloride efflux (%) at 290 s was plotted as a function of the carrier concentration and the obtained results fitted with the Hill equation using Origin 8.1:



where *x* is the anion carrier concentration, *Vmax* is the maximum chloride efflux (100%), *y* is the chloride efflux at 290 s (%), *n* is the Hill coefficient and *k* is the anion carrier concentration needed to achieve *Vmax/2 (*when *Vmax* is fixed to 100%, *k* equals *EC50);* *k* and *n* are the parameters to be fitted. EC50, defined as the anion carrier concentration (molar % carrier to lipid) needed to induce 50% release of the total of the chloride encapsulated in the time scale of our experiments, can be obtained directly from the graphs. Figures S122-S164 show all of the obtained transport data. An overview of the EC50 values can be found in Table S1 in S91.

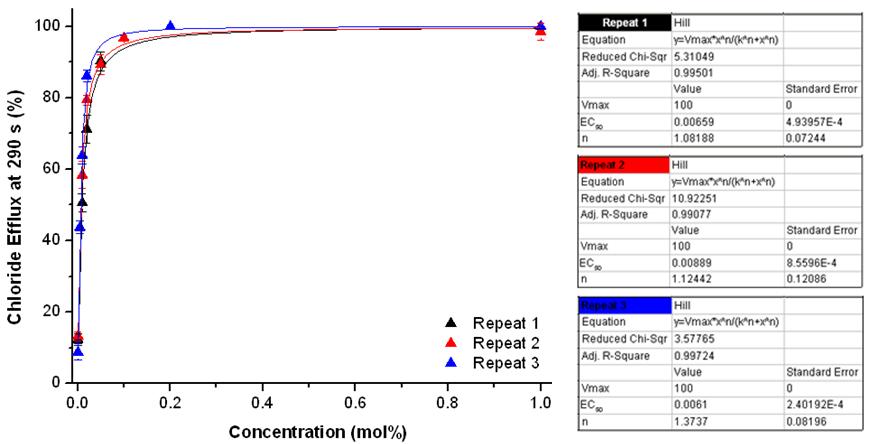


Figure S122.Overview of the Hill plots for compound **1**. For experimental details, see main text.

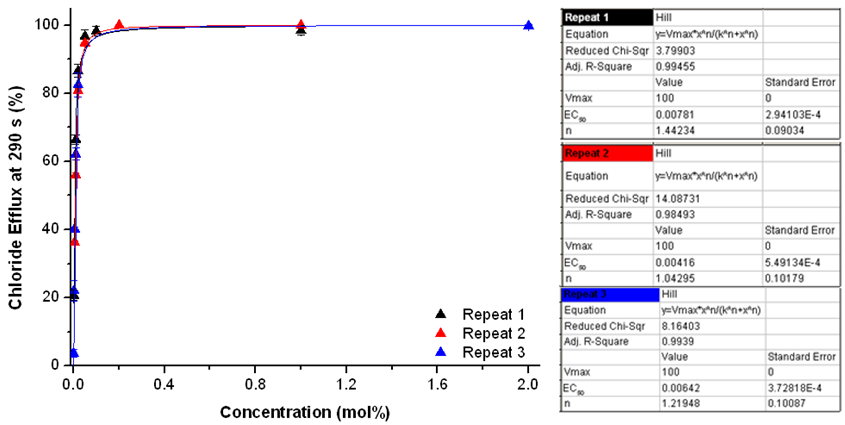


Figure S123. Overview of the Hill plots for compound **2**. For experimental details, see main text.

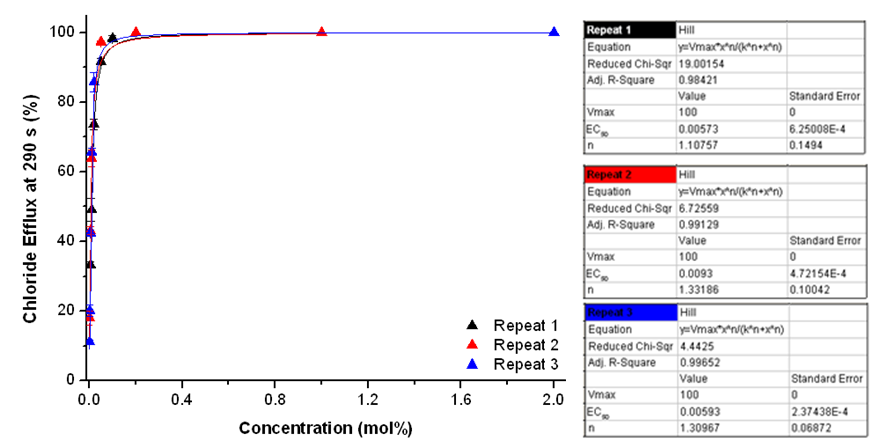


Figure S124.Overview of the Hill plots for compound **3**. For experimental details, see main text.

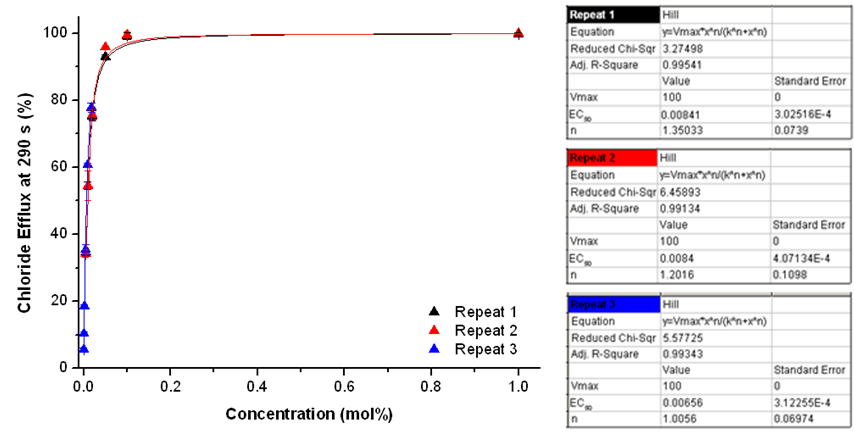


Figure S125. Overview of the Hill plots for compound **4**. For experimental details, see main text.

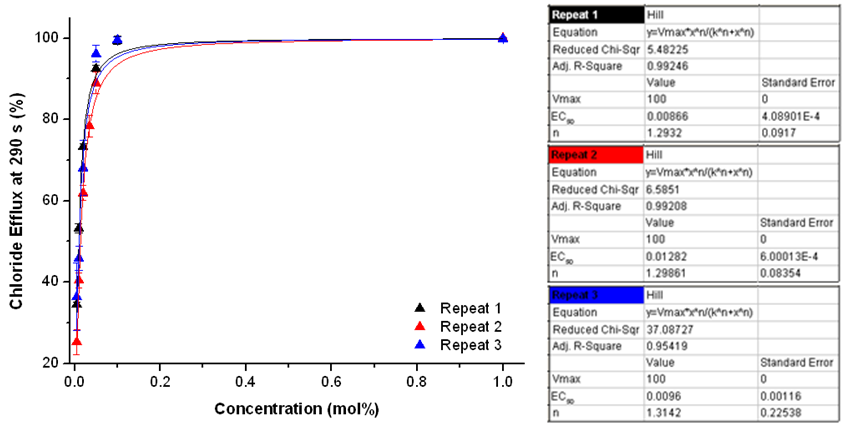


Figure S126. Overview of the Hill plots for compound **5**. For experimental details, see main text.

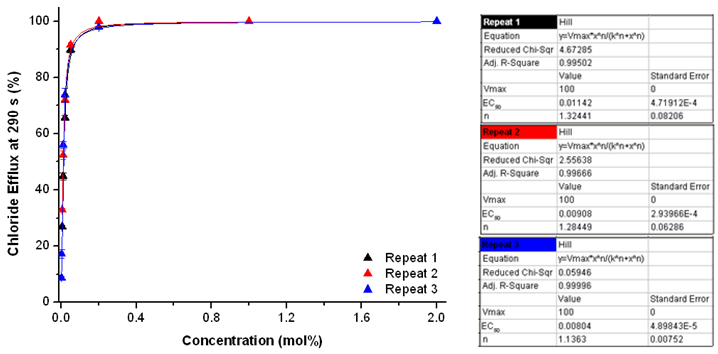


Figure S127. Overview of the Hill plots for compound **6**. For experimental details, see main text.

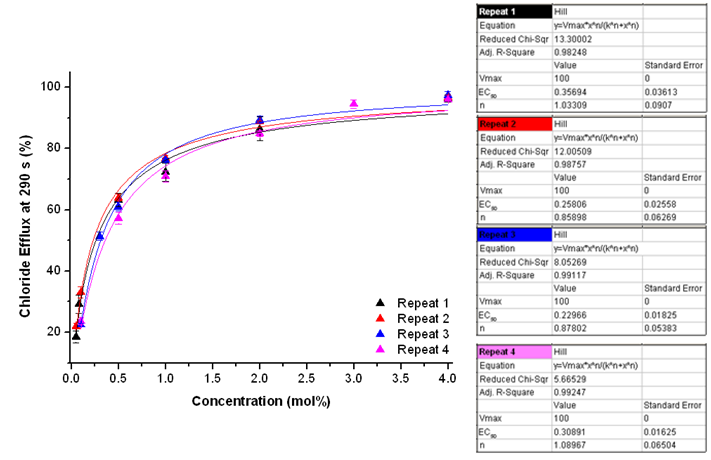


Figure S128. Overview of the Hill plots for compound **7**. For experimental details, see main text.

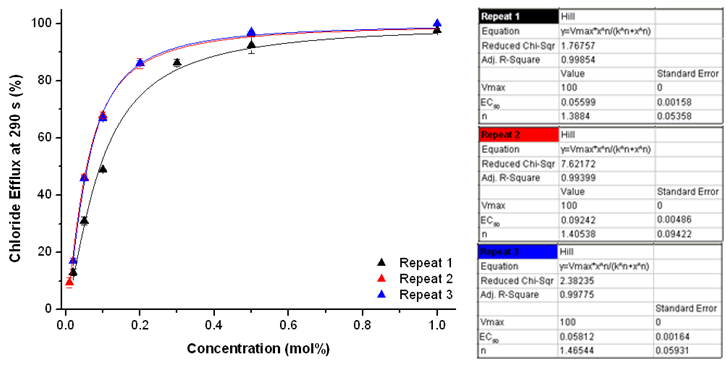


Figure S129. Overview of the Hill plots for compound **8**. For experimental details, see main text.

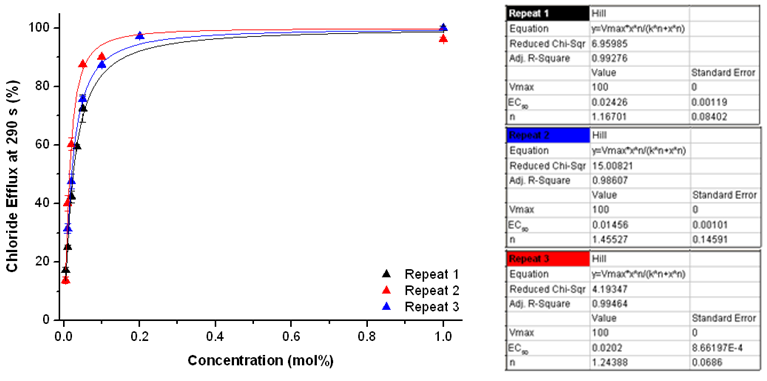


Figure S130. Overview of the Hill plots for compound **9**. For experimental details, see main text.

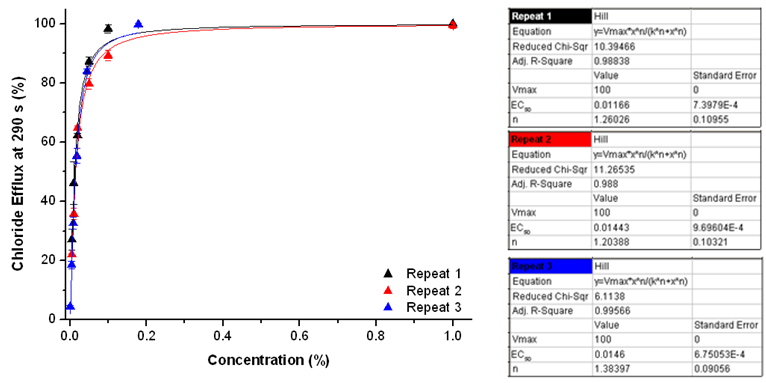


Figure S131.Overview of the Hill plots for compound **10**. For experimental details, see main text.

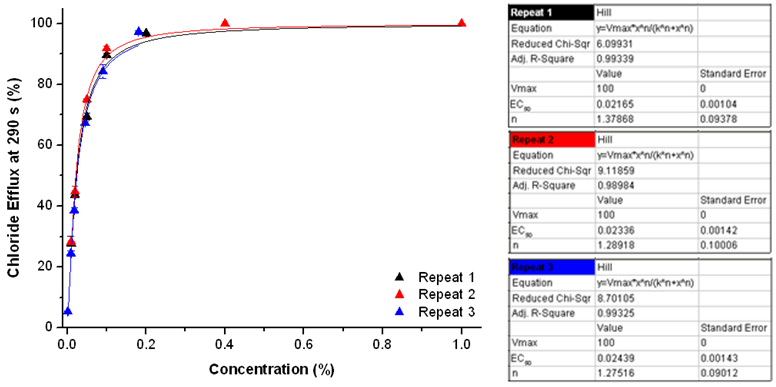


Figure S132.Overview of the Hill plots for compound **11**. For experimental details, see main text.

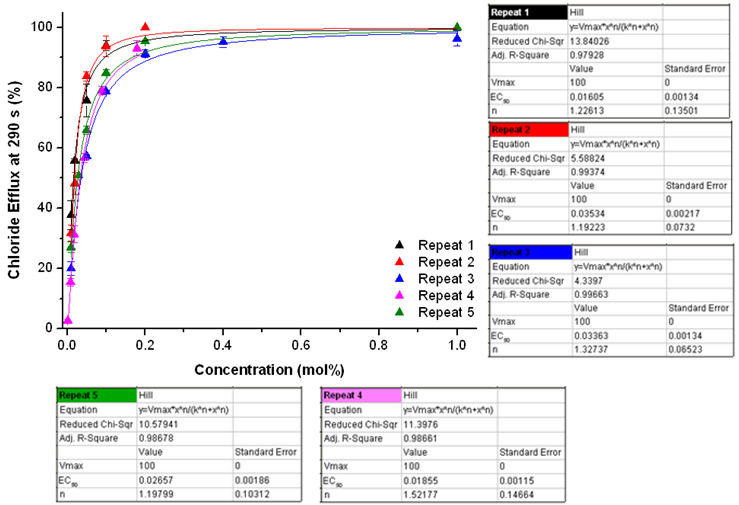


Figure S133.Overview of the Hill plots for compound **12**. For experimental details, see main text.

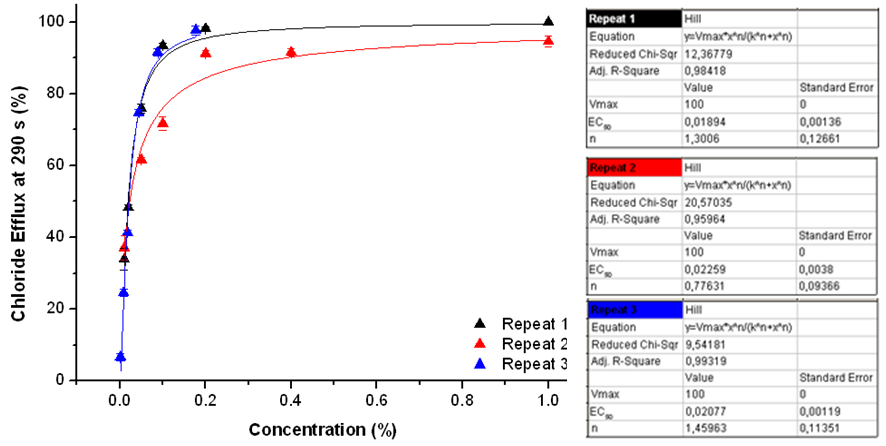


Figure S134. Overview of the Hill plots for compound **13**. For experimental details, see main text.

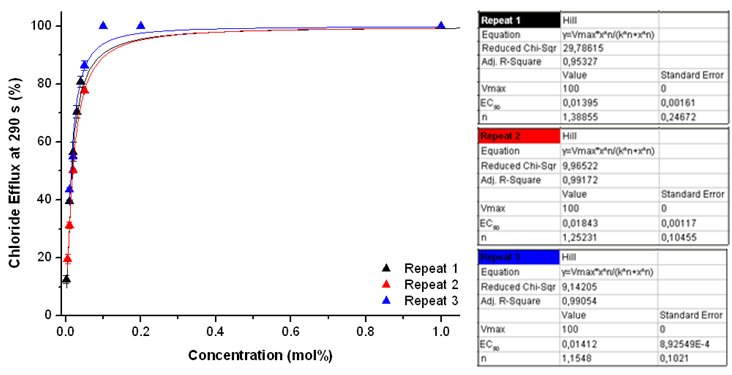


Figure S135. Overview of the Hill plots for compound **14**. For experimental details, see main text.

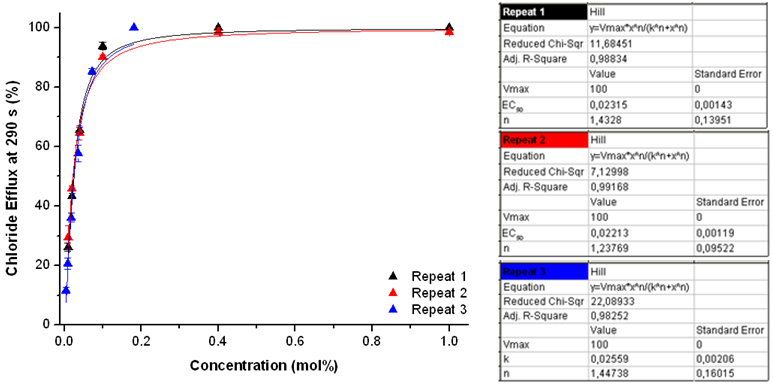


Figure S136. Overview of the Hill plots for compound **15**. For experimental details, see main text.

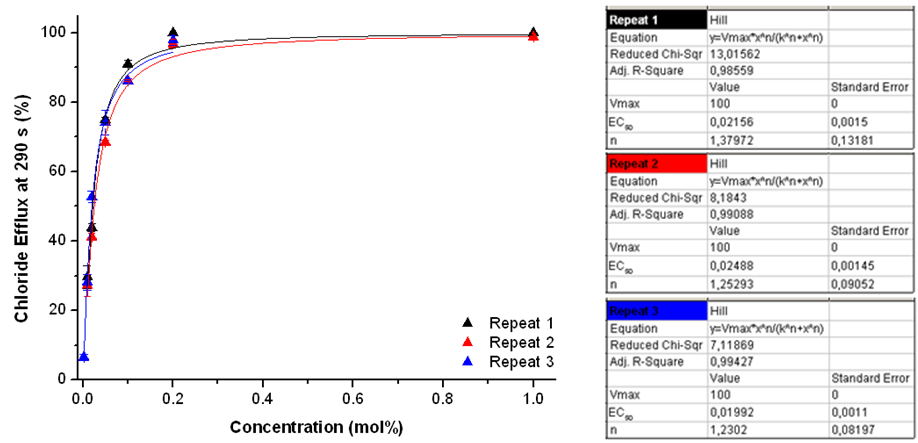


Figure S137.Overview of the Hill plots for compound **16**. For experimental details, see main text.

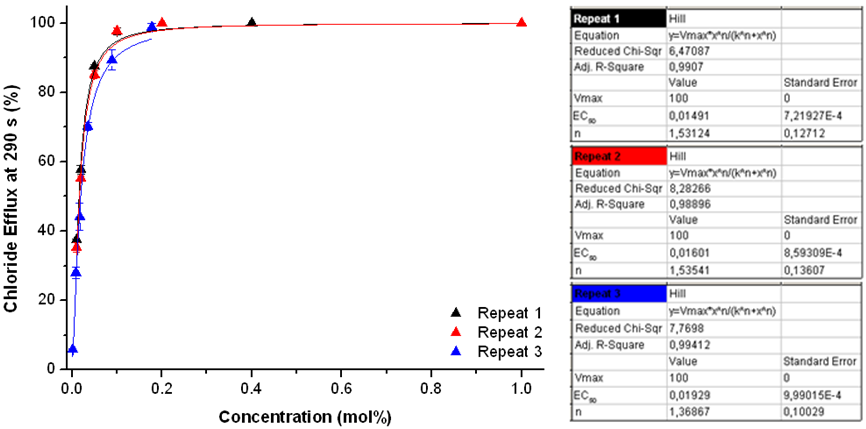


Figure S138.Overview of the Hill plots for compound **17**. For experimental details, see main text.

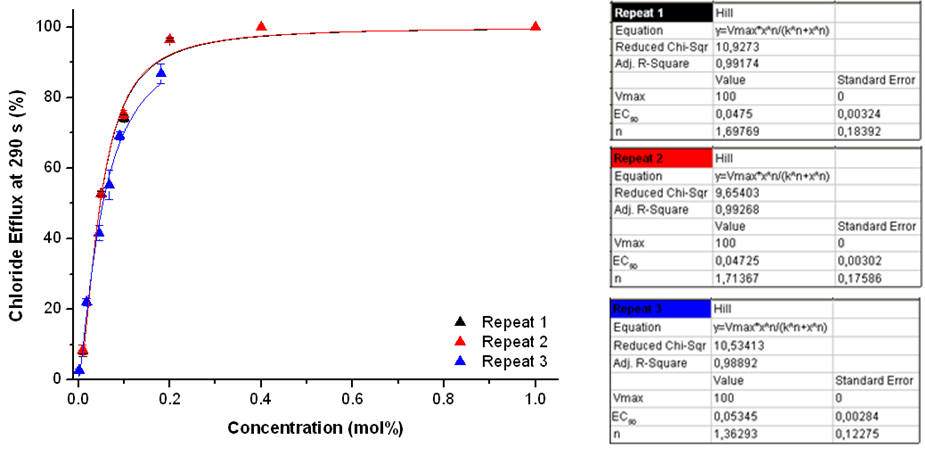


Figure S139. Overview of the Hill plots for compound **18**. For experimental details, see main text.

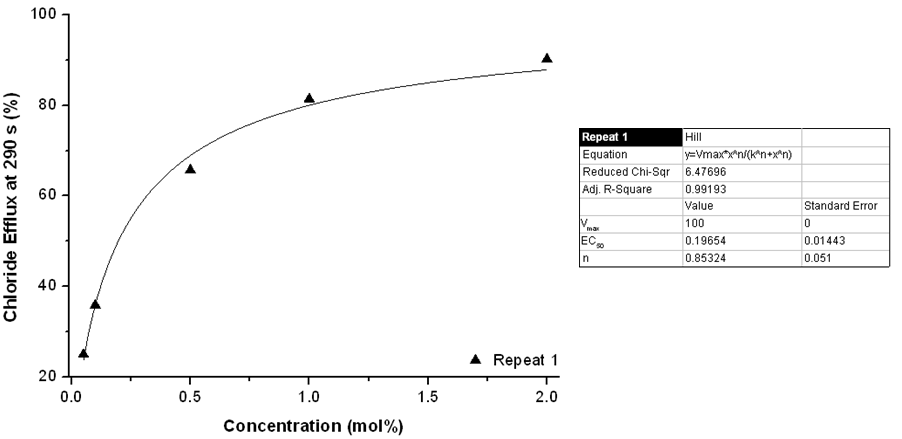


Figure S140. Overview of the Hill plots for compound **19**. For experimental details, see main text.

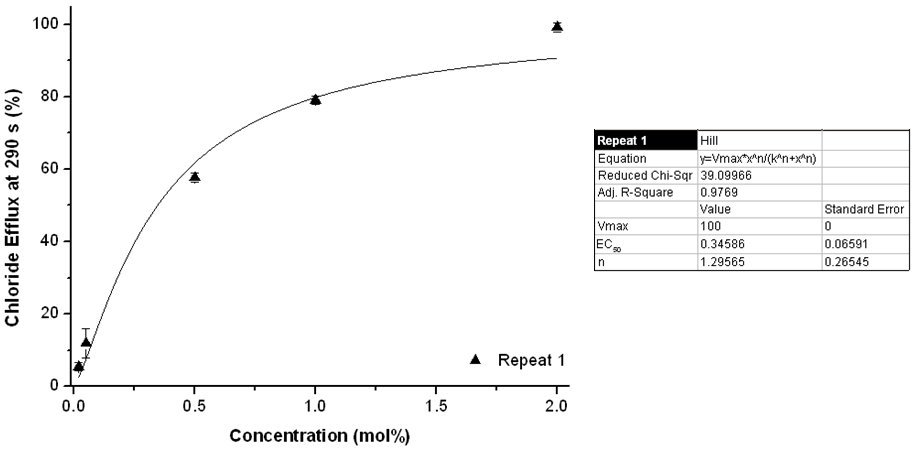


Figure S141. Overview of the Hill plots for compound **20**. For experimental details, see main text.

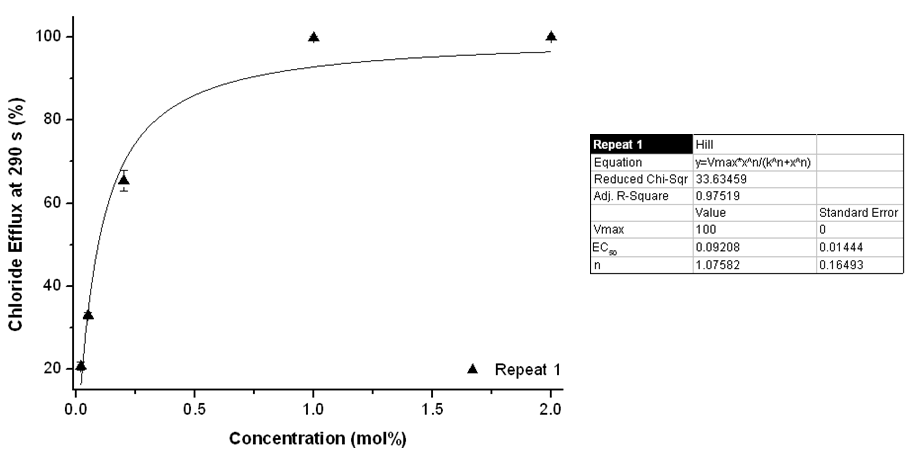


Figure S142.Overview of the Hill plots for compound **21**. For experimental details, see main text.

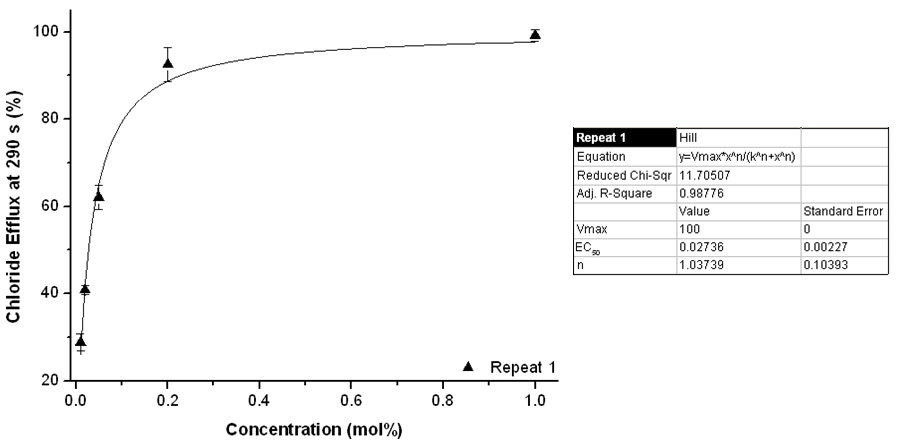


Figure S143. Overview of the Hill plots for compound **22**. For experimental details, see main text.

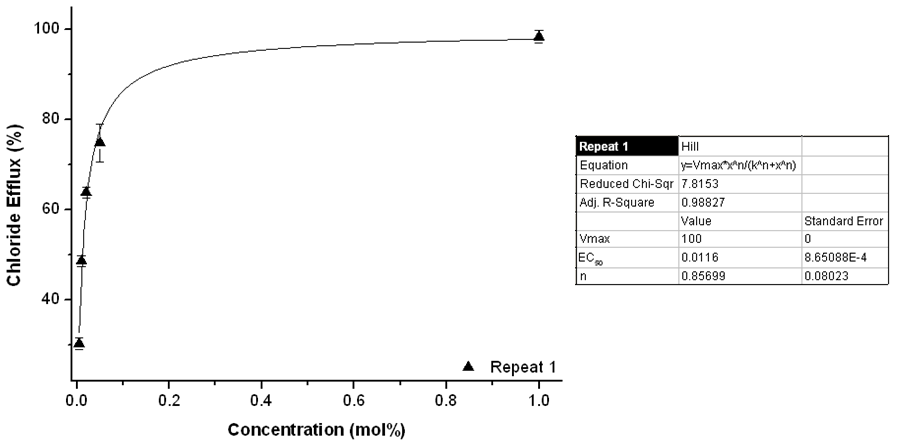


Figure S144. Overview of the Hill plots for compound **23**. For experimental details, see main text.

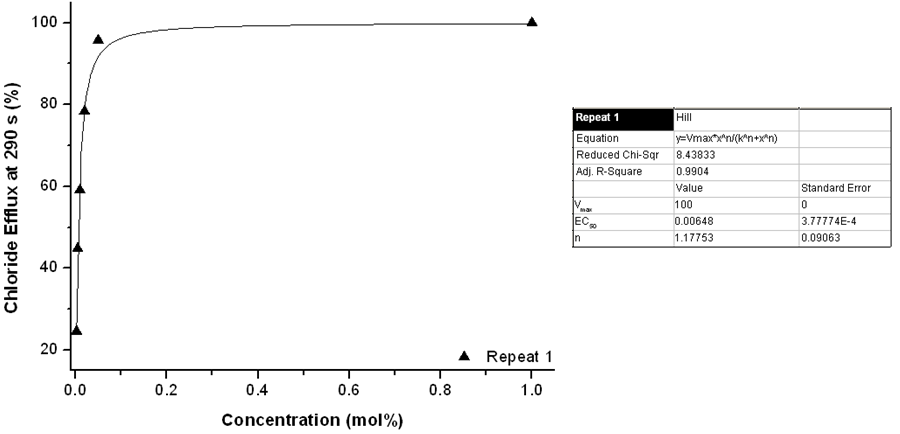


Figure S145. Overview of the Hill plots for compound **24**. For experimental details, see main text.

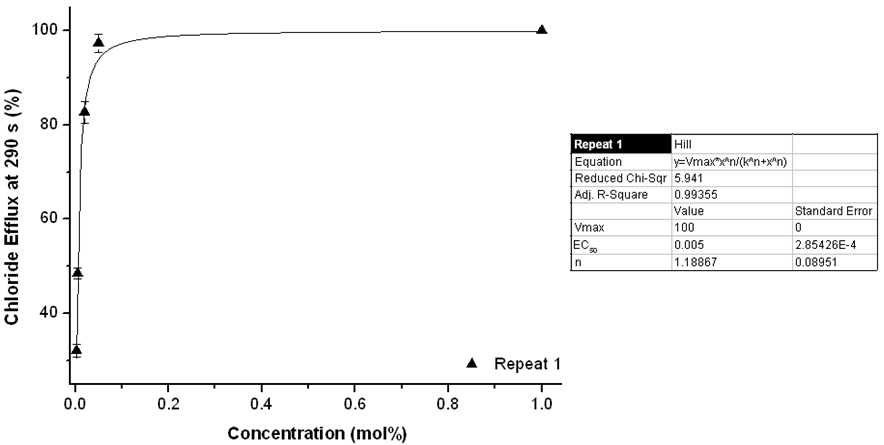


Figure S146. Overview of the Hill plots for compound **25**. For experimental details, see main text.

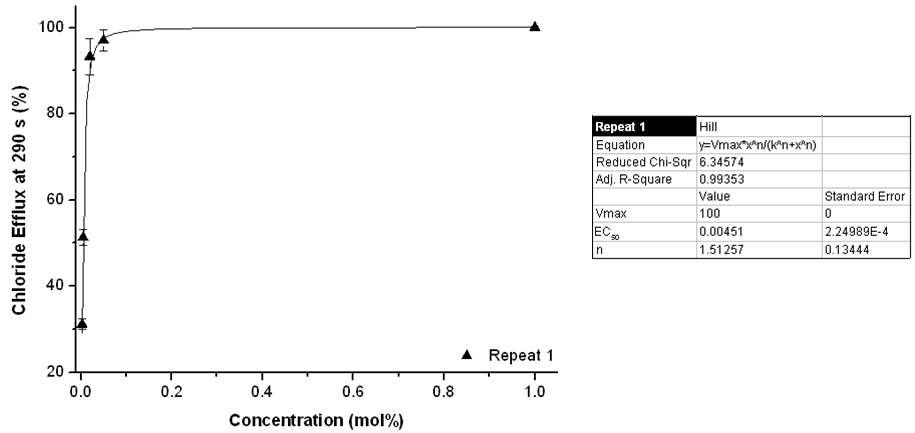


Figure S147. Overview of the Hill plots for compound **26**. For experimental details, see main text.

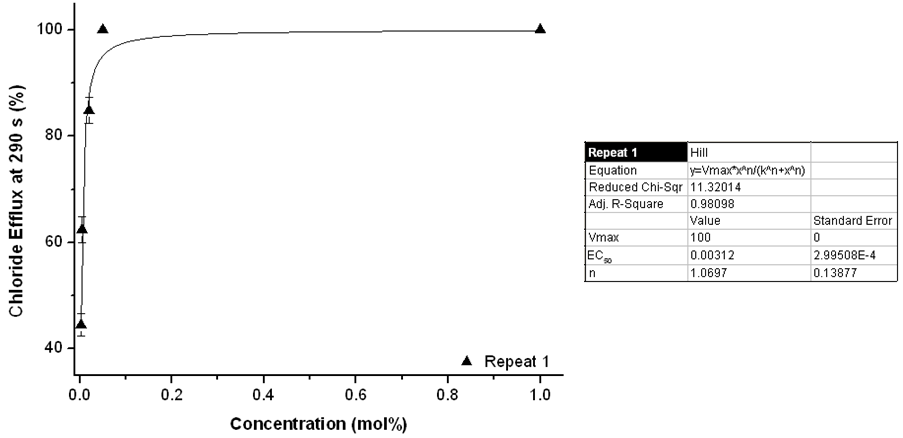


Figure S148.Overview of the Hill plots for compound **27**. For experimental details, see main text.

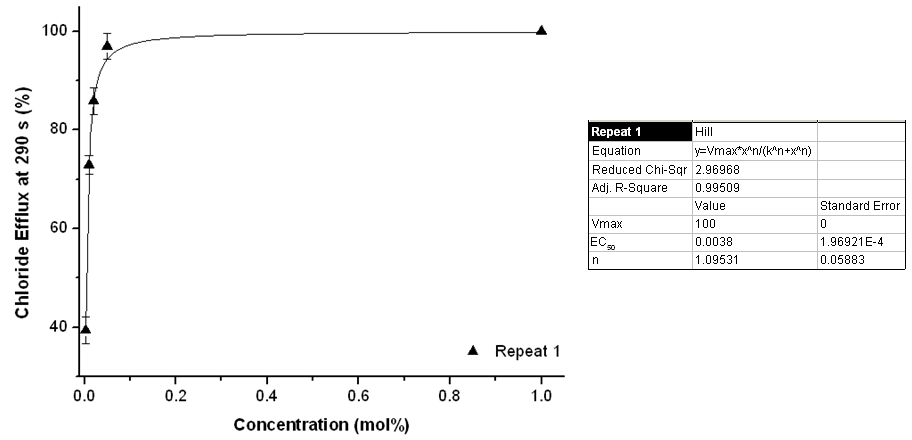


Figure S149. Overview of the Hill plots for compound **28**. For experimental details, see main text.

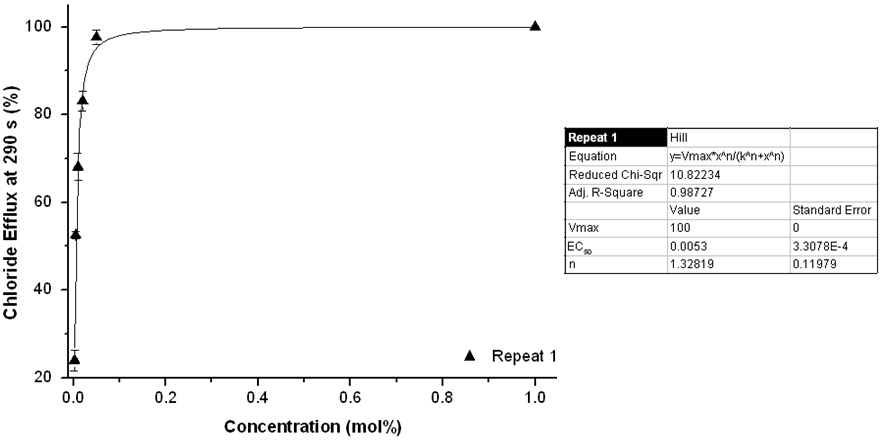


Figure S150. Overview of the Hill plots for compound **29**. For experimental details, see main text.

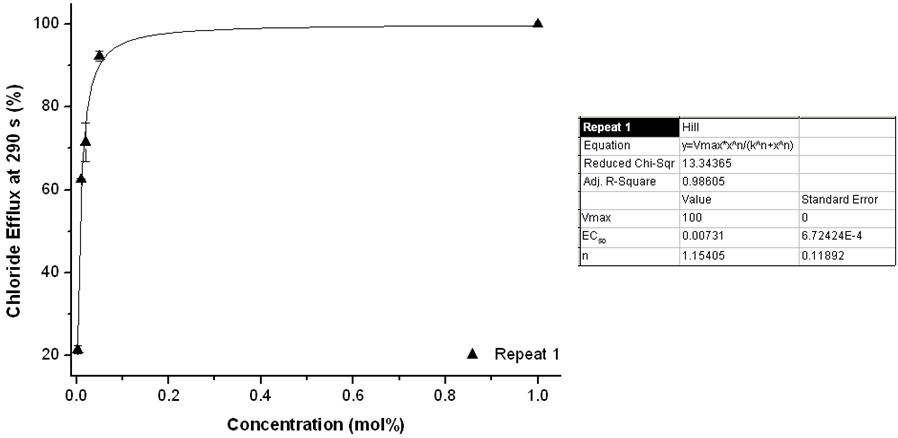


Figure S151. Overview of the Hill plots for compound **30**. For experimental details, see main text.

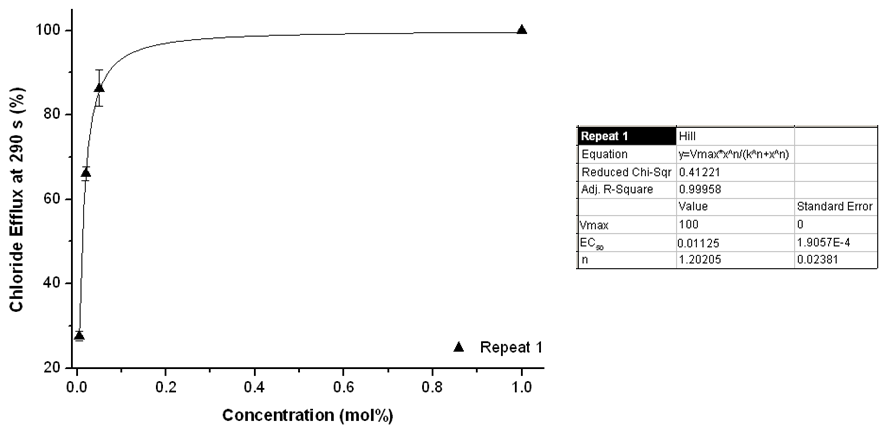


Figure S152. Overview of the Hill plots for compound **31**. For experimental details, see main text.

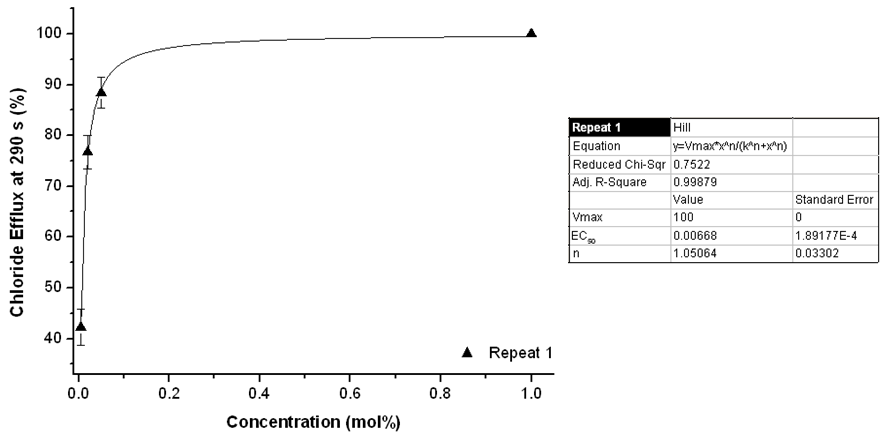


Figure S153. Overview of the Hill plots for compound **32**. For experimental details, see main text.

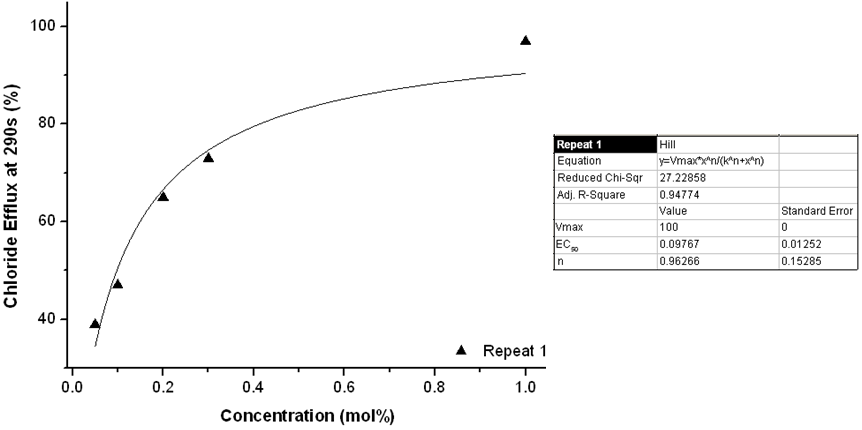


Figure S154. Overview of the Hill plots for compound **33**. For experimental details, see main text.

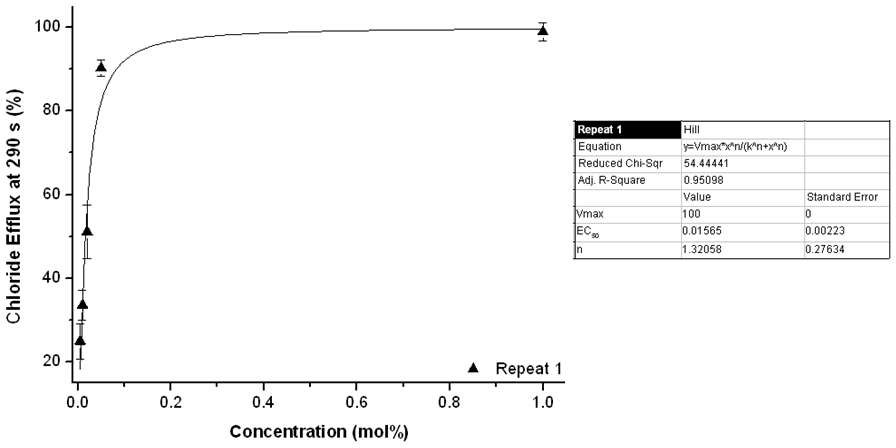


Figure S155. Overview of the Hill plots for compound **34**. For experimental details, see main text.

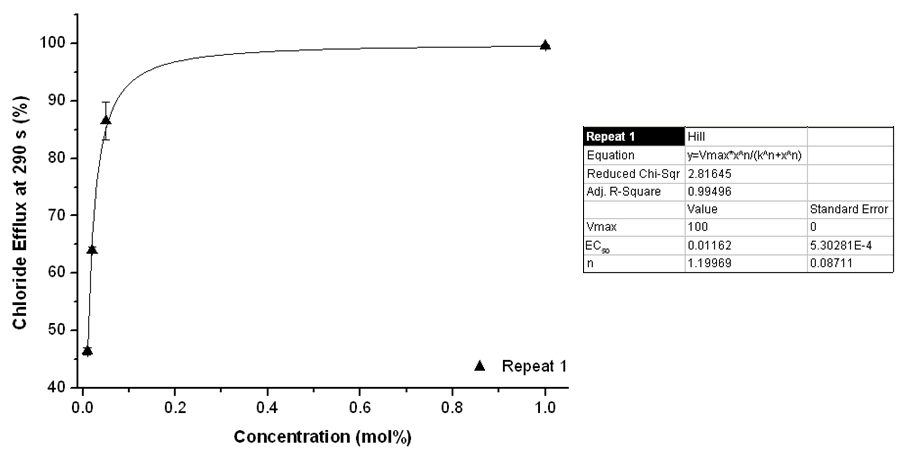


Figure S156.Overview of the Hill plots for compound **35**. For experimental details, see main text.

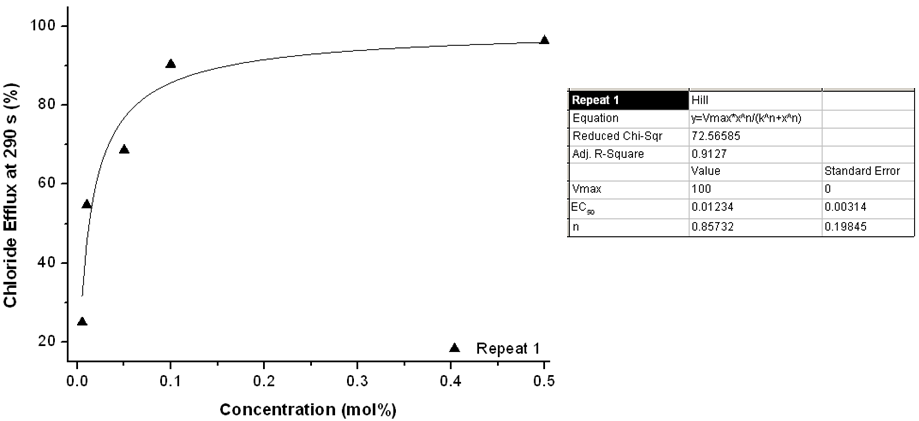


Figure S157. Overview of the Hill plots for compound **36**. For experimental details, see main text.

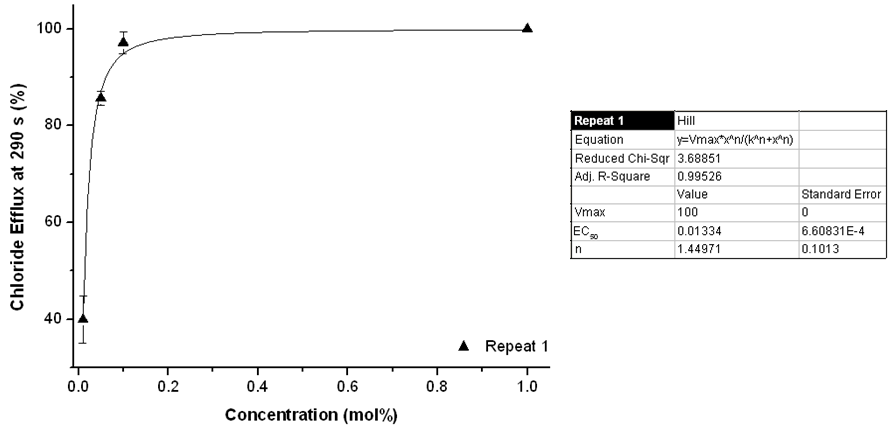


Figure S158. Overview of the Hill plots for compound **37**. For experimental details, see main text.

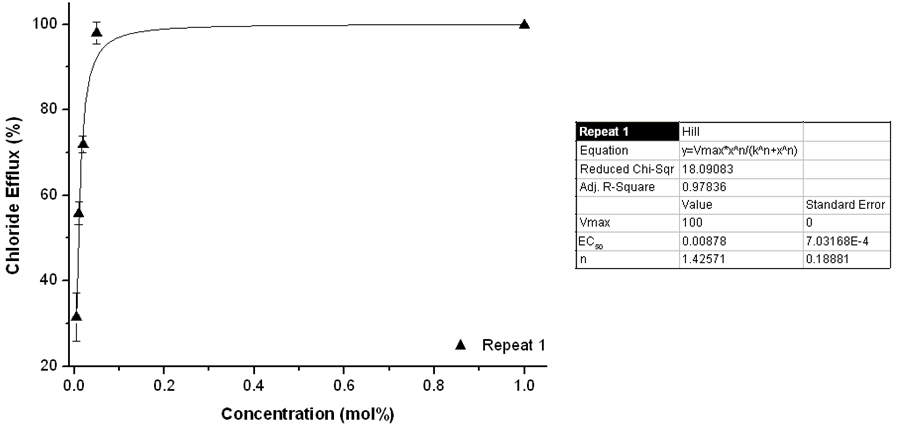


Figure S159. Overview of the Hill plots for compound **38**. For experimental details, see main text.

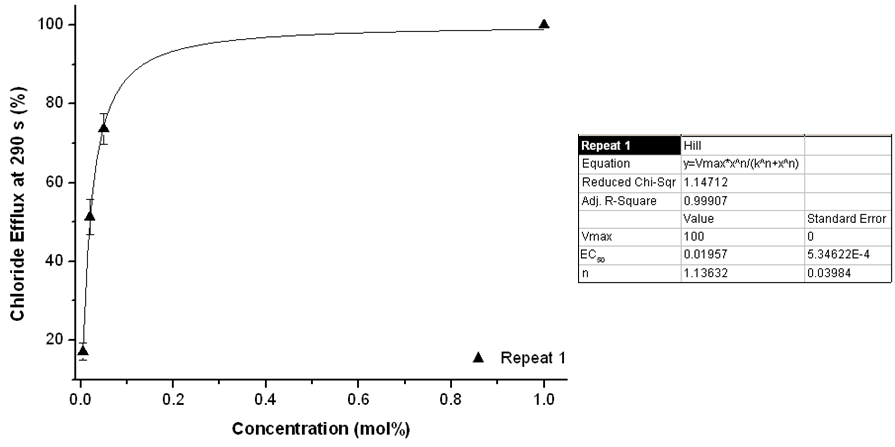


Figure S160.Overview of the Hill plots for compound **39**. For experimental details, see main text.

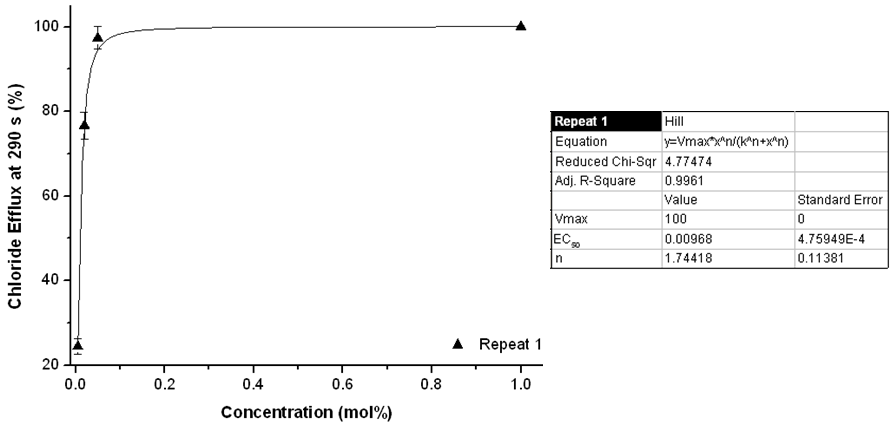


Figure S161.Overview of the Hill plots for compound **40**. For experimental details, see main text.

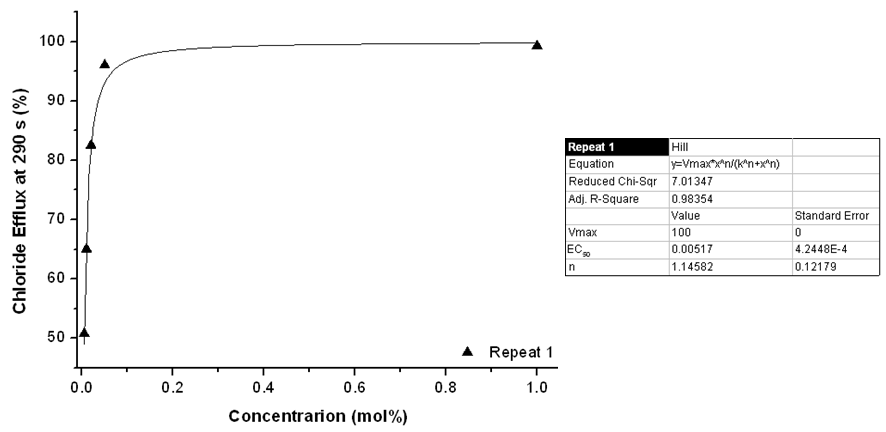


Figure S162.Overview of the Hill plots for compound **41**. For experimental details, see main text.

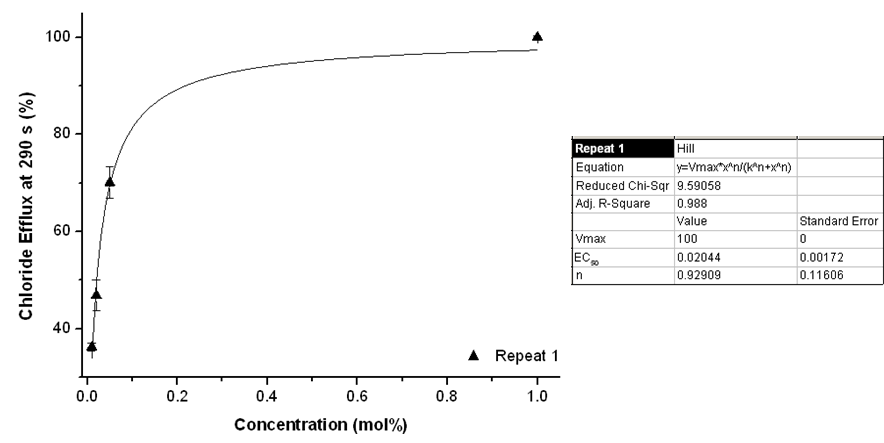


Figure S163. Overview of the Hill plots for compound **42**. For experimental details, see main text.

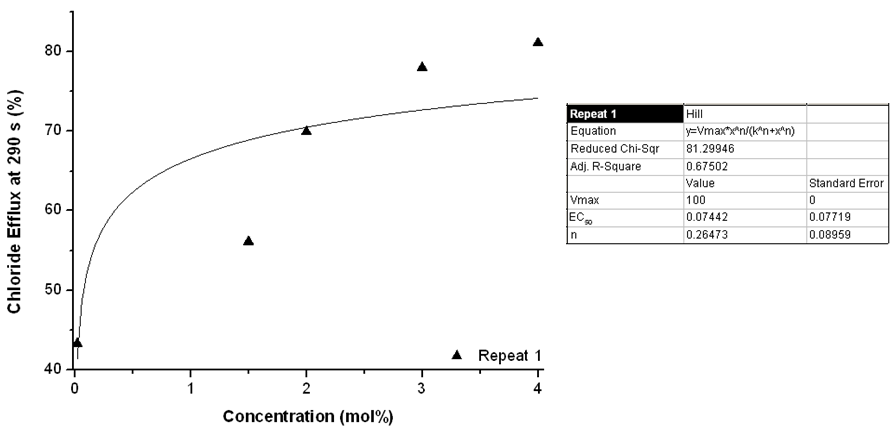


Figure S164.Overview of the Hill plots for compound **43**. For experimental details, see main text.

* 1. **Kini EC50 correlation for EC50 Prediction**

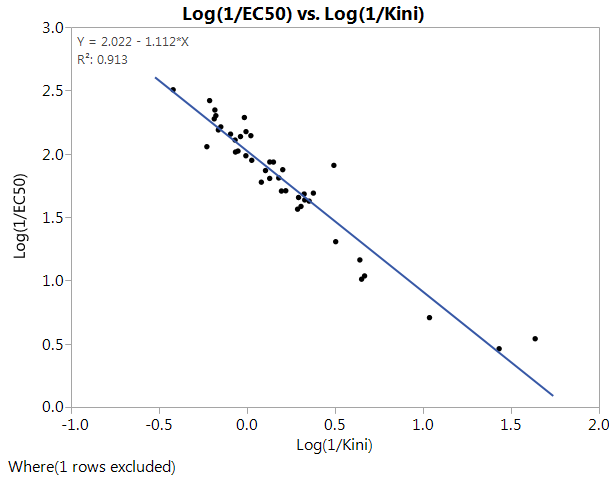


Figure S165 –Correlation Plot for Log(1/kini) and Log(1/EC50) excluding compound **43**.

Used in the prediction of EC50 for compound **43**