

## Electronic Supplementary Information

### Biodegradability and cytotoxicity of choline soaps on human cell lines: effects of chain length and cation

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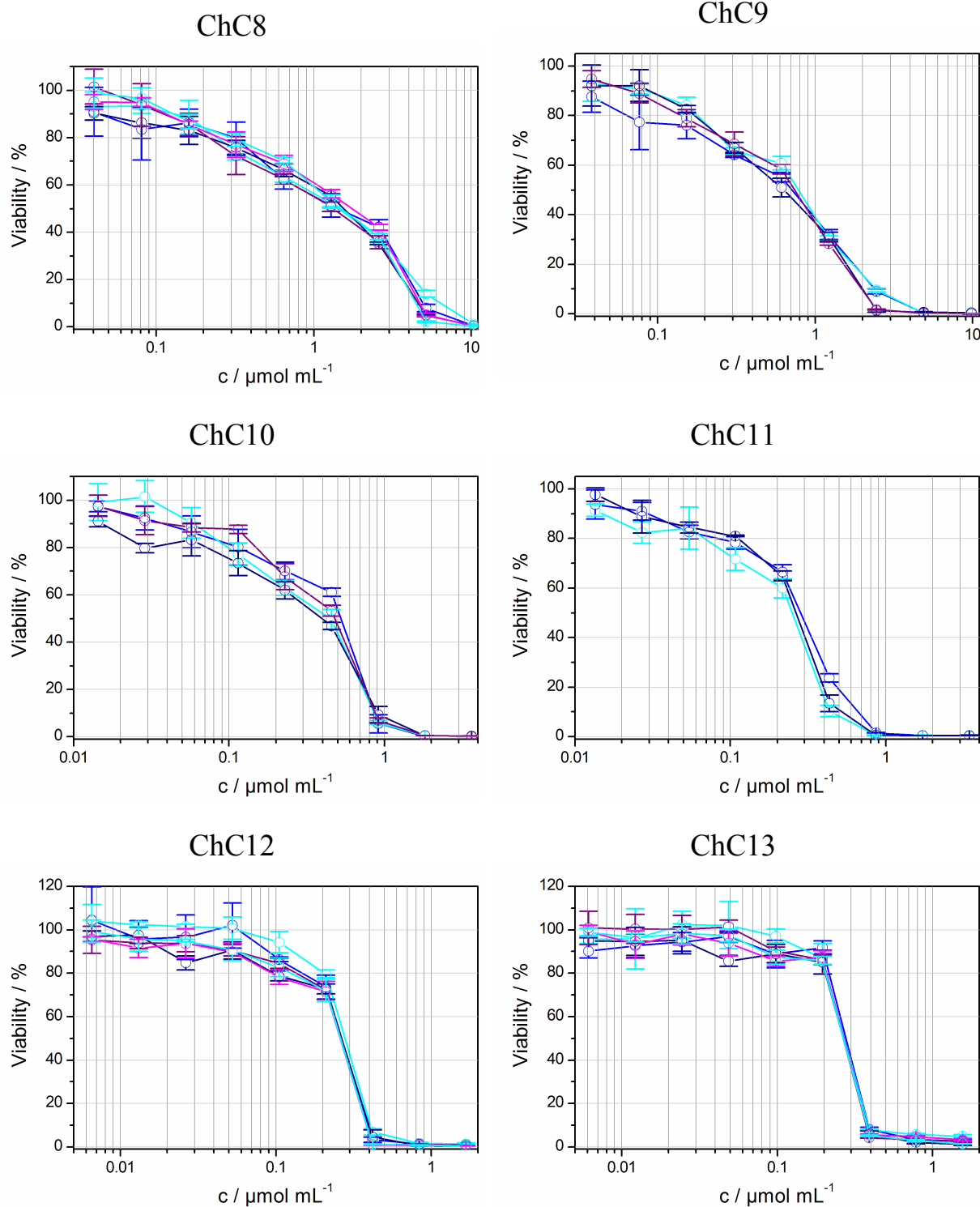
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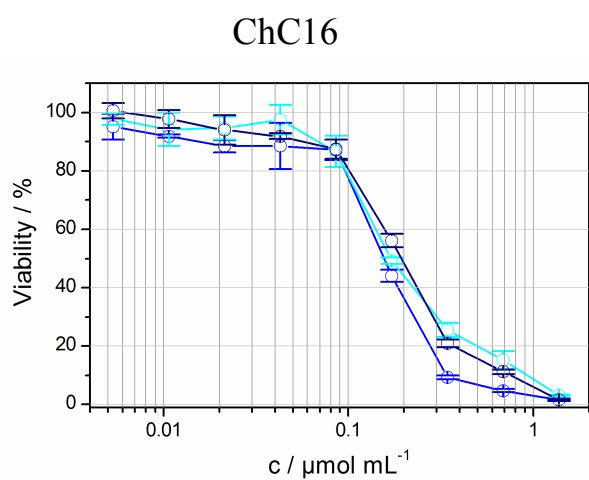
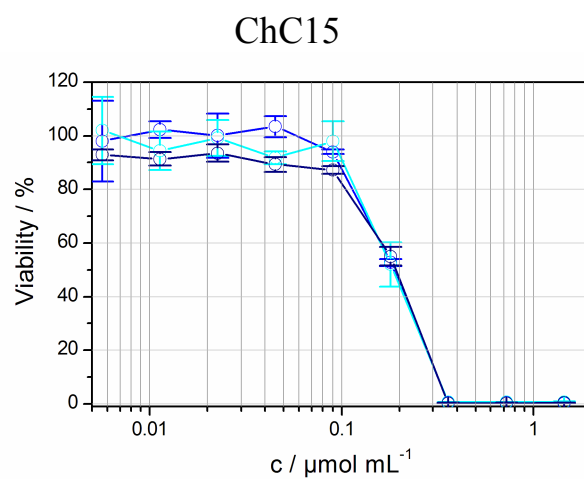
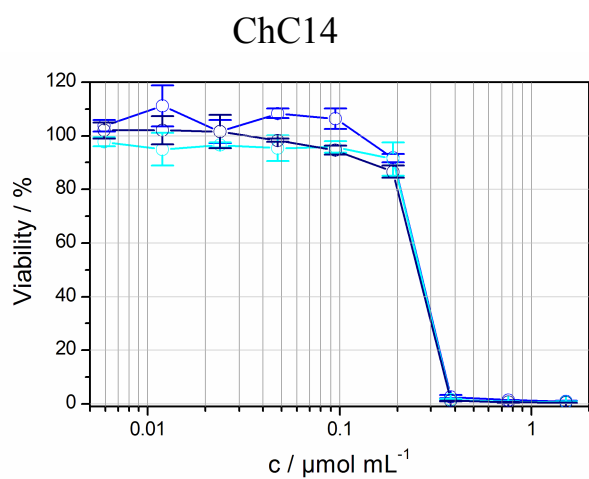
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## Section S1: HeLa dose-response curves of ChC*m* surfactants for *m* = 8-16

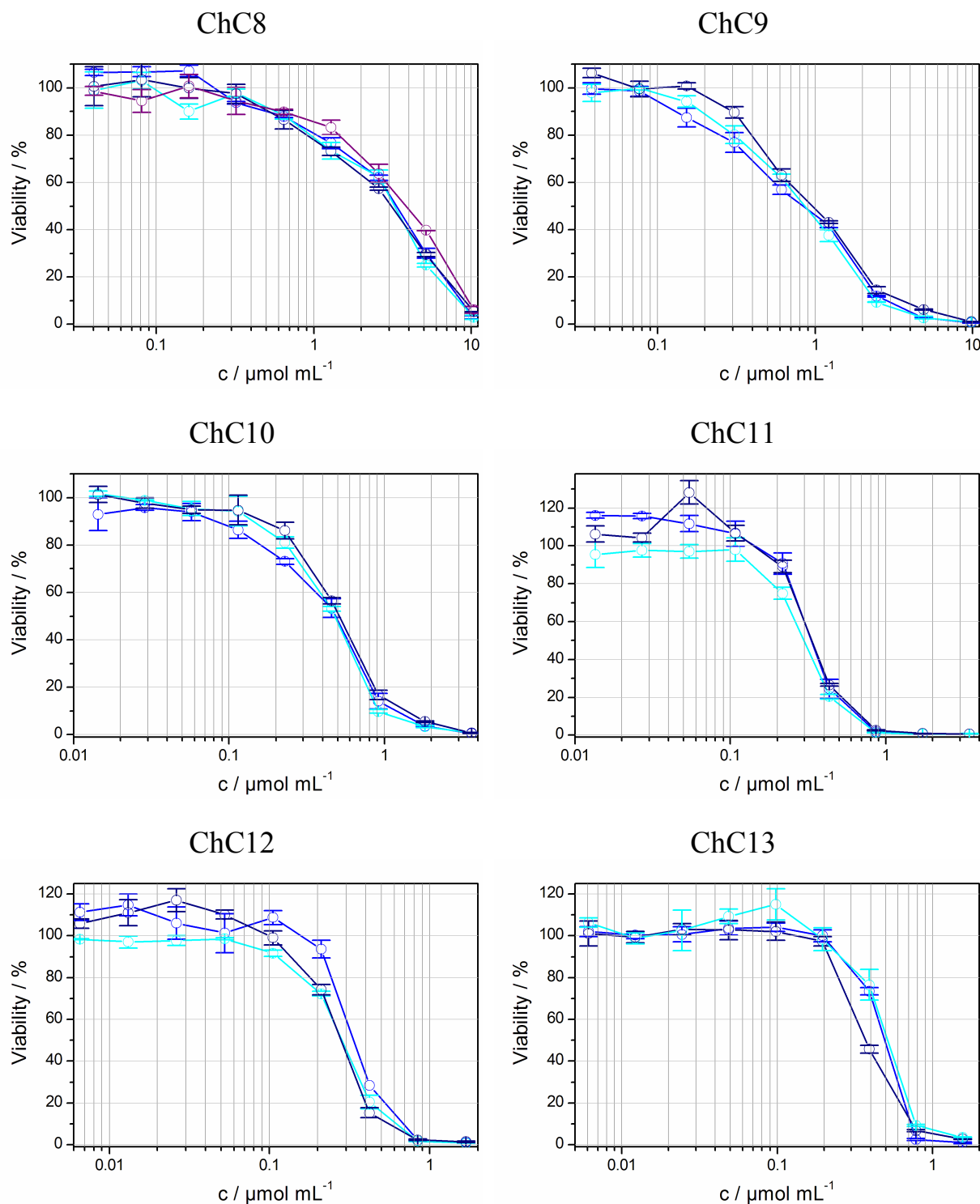
Each plot contains three to six dose-response curves, which were established over several weeks. Each data point represents the average of three parallel measurements.



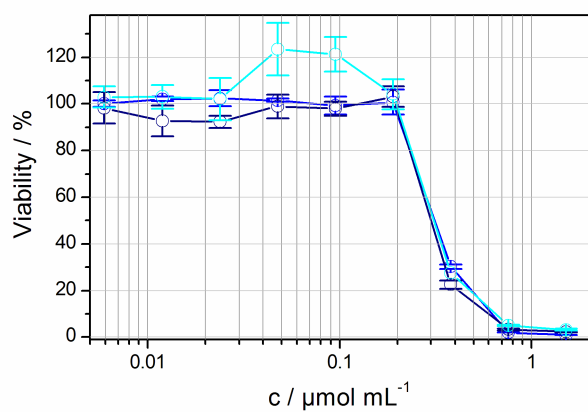


## Section S2: SK-Mel-28 dose-response curves of ChC*m* surfactants for *m* = 8-16

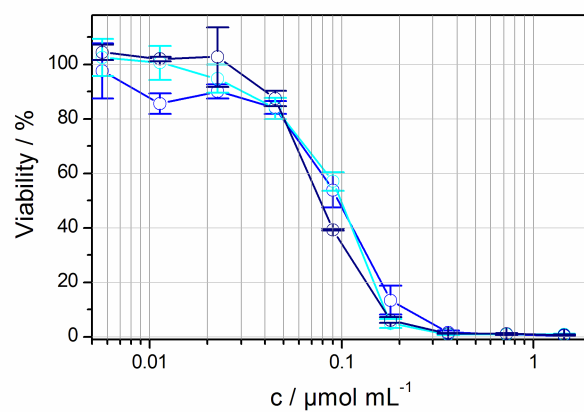
Each plot contains three to six dose-response curves, which were established over several weeks. Each data point represents the average of three parallel measurements.



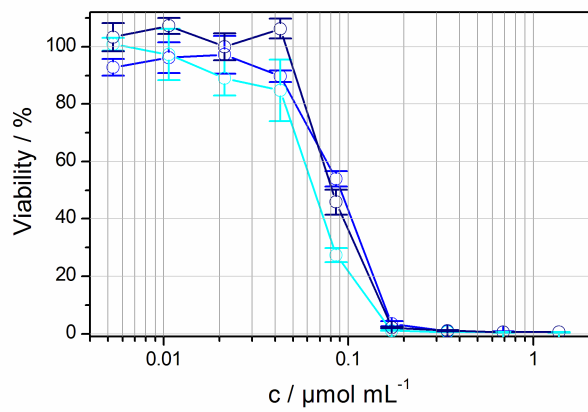
ChC14



ChC15



ChC16



### Section S3: Time-dependent phase contrast and fluorescence images of HeLa cells treated with pyrene-substituted choline and sodium dodecanoate soaps

HeLa cells were incubated with 2:1 molar mixtures of ChC12/ChPC12 (left) and NaC12/NaPC12 (right) at concentrations slightly below the respective  $IC_{50}$  values ( $81 \mu\text{M}$  for ChC12/ChPC12 and  $102 \mu\text{M}$  for NaC12/NaPC12). Images were recorded immediately after addition of surfactants (0 h) and subsequently every 10 min in the same well over a total period of 60 min (scale bars:  $20 \mu\text{m}$ ).

