

Abstract This study intends to address the issue of low drug solubility in water. Throughout the drug development process many pharmaceutical candidates are eliminated due to their low solubility. Most drugs must be in solution in order to be effectively absorbed by the body. Surfactants are one method used to increase drug solubility. This experiment requires the synthesis of novel surfactants and the testing of these surfactants with existing and investigational drugs known to be poorly soluble. The method to be used in this study is free radical polymerization. Solubility studies will be conducted using a variety of instruments to interpret the results. Results of this experiment confirm low-molecular weight surfactants were synthesized. The results of the solubility studies demonstrate increased solubility among study drugs. Further studies are recommended to determine the most effective ratio of surfactant to drug that will yield the most soluble drugs. The newly created surfactants may be potential excipients for known drugs with low solubility.