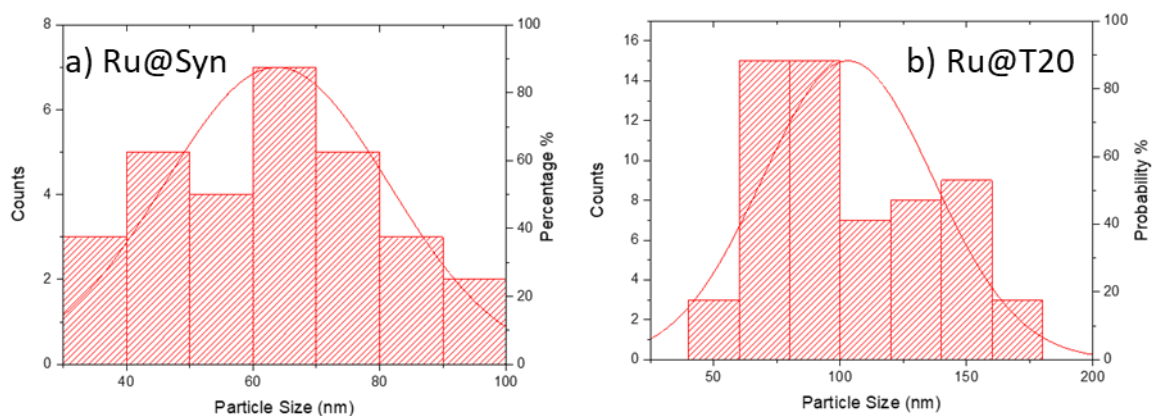


# Dosage Delivery of Chiral Ruthenium Catalysts Using Non-Ionic Surfactants for Asymmetric Transfer Hydrogenation Reactions in Aqueous Media

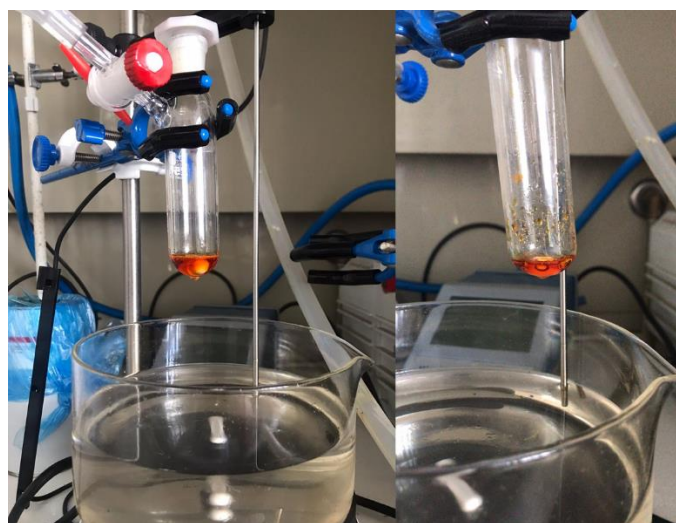
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Corresponding author E-mail: [bengi04@hacettepe.edu.tr](mailto:bengi04@hacettepe.edu.tr)

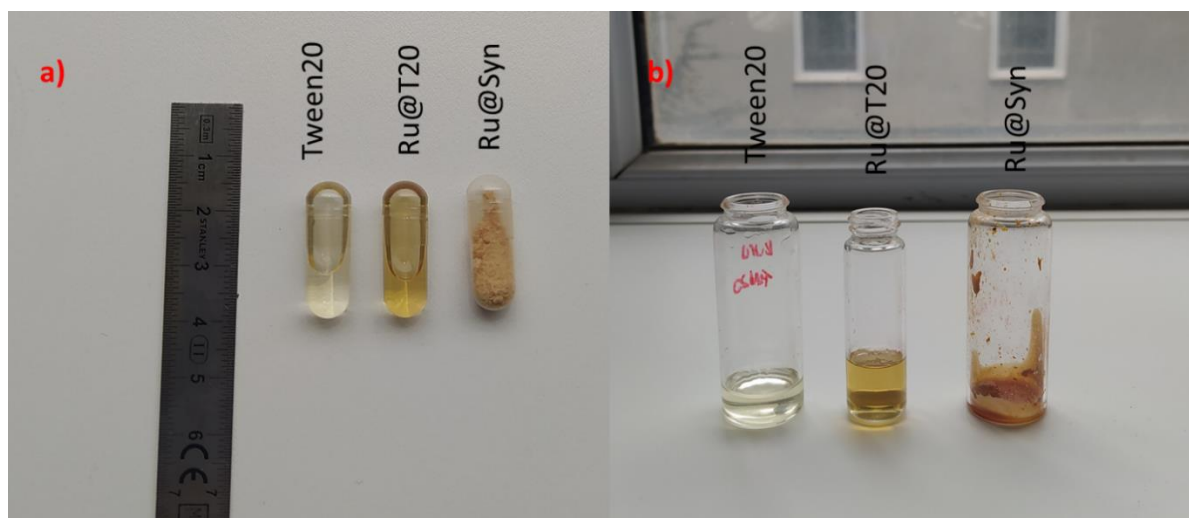
## SUPPORTING INFORMATION



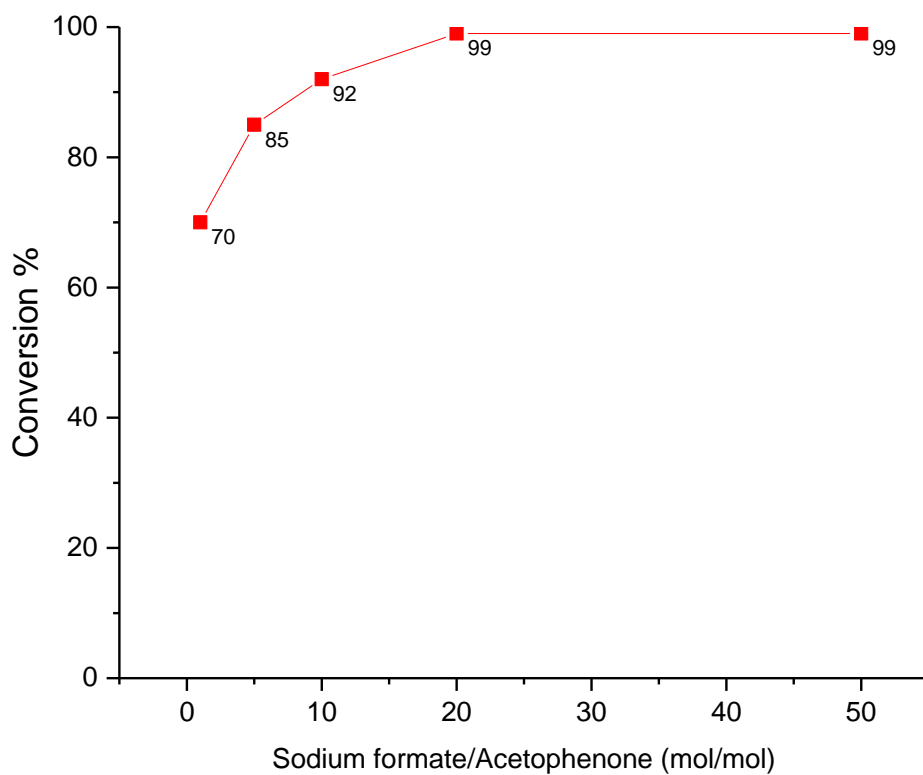
**Scheme S1.** Particle size distribution of Ru@Syn and Ru@T20 in water (Obtained from high contrast TEM images)



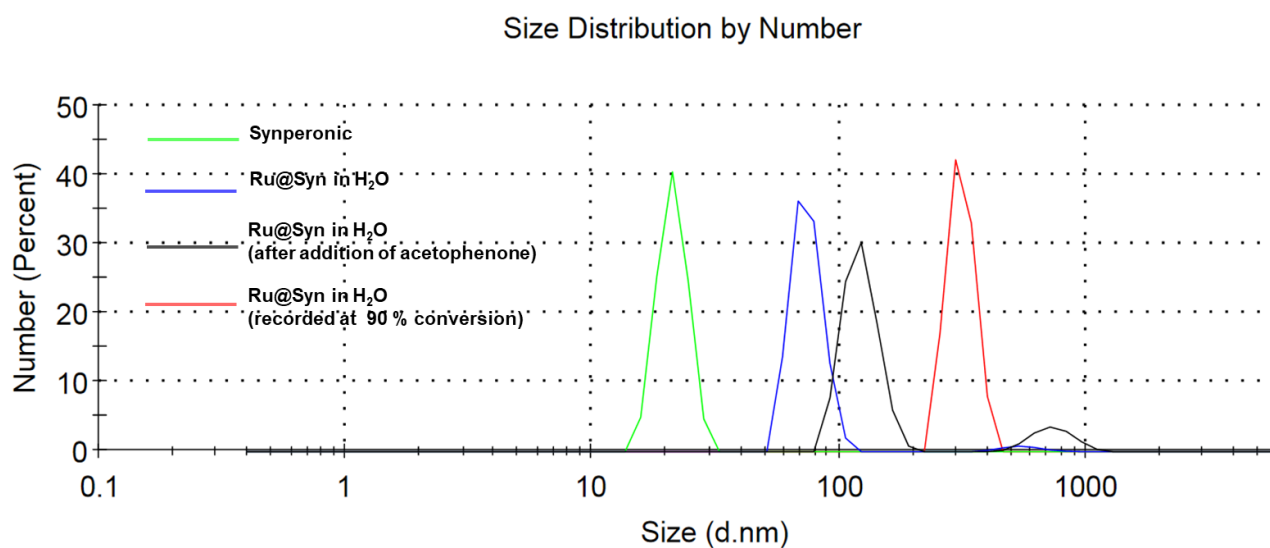
**Scheme S2.** The preparation of Ru@Syn at 70 °C



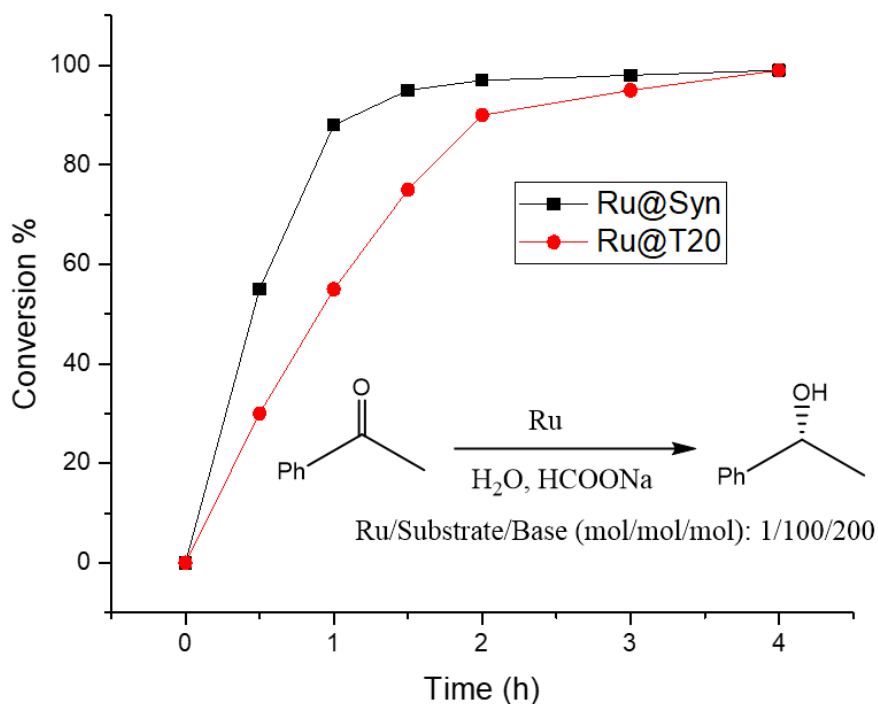
**Scheme S3.** a) Tween@20, Ru@T20 and Ru@Syn in cellulose capsules b) Freshly prepared Ru@T20 and Ru@Syn in glass vials



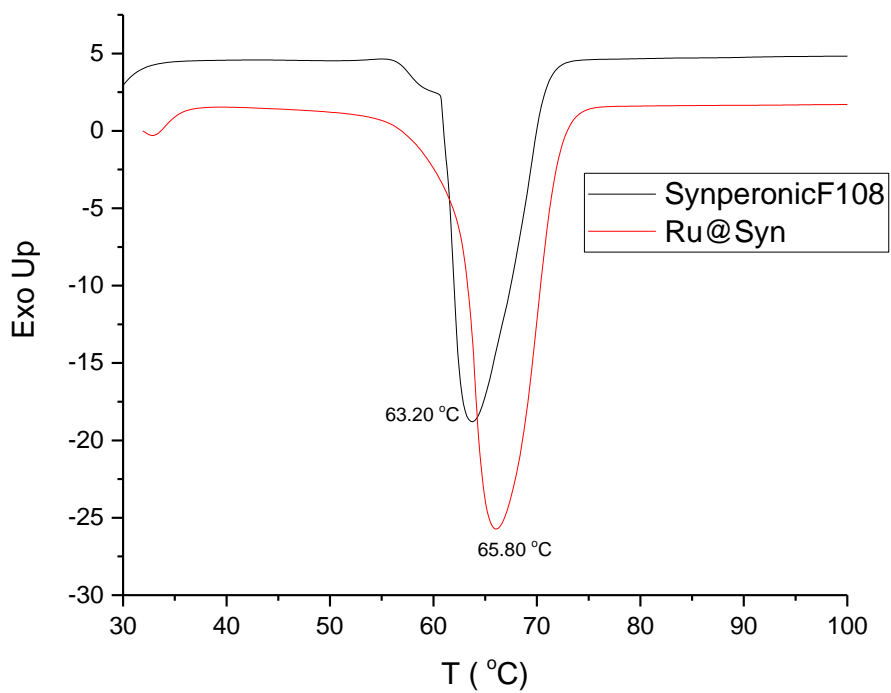
**Scheme S4.** The effect of sodium formate/acetophenone ratio on ATH of acetophenone using 1 mol % Ru ( Ru@Syn) in water at 80 °C.



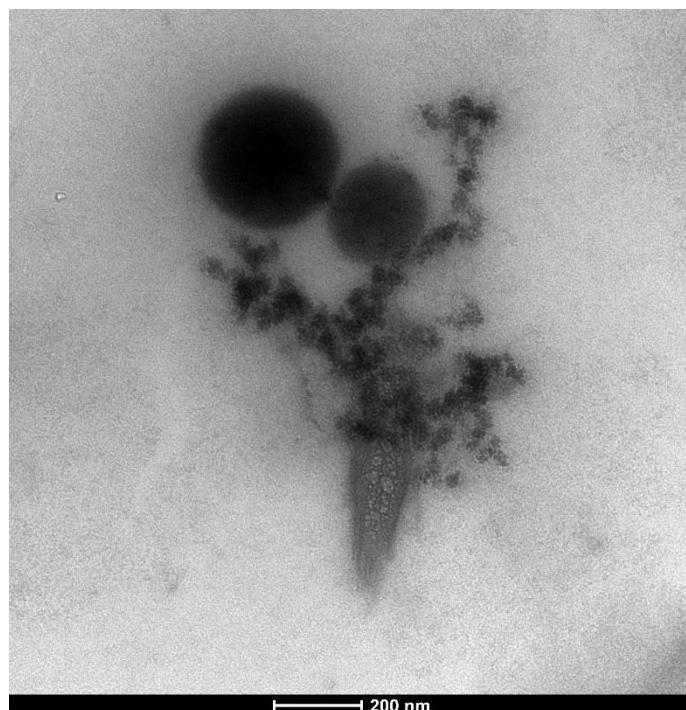
**Scheme S5.** DLS analysis of the reaction mixture during ATH of acetophenone in water ( Reaction conditions: Acetophenone/Sodium Formate/Ru; 100/2000/1 (mol/mol/mol). The reaction was carried out at 80 °C. The samples withdrawn from the mixture was analyzed by DLS)



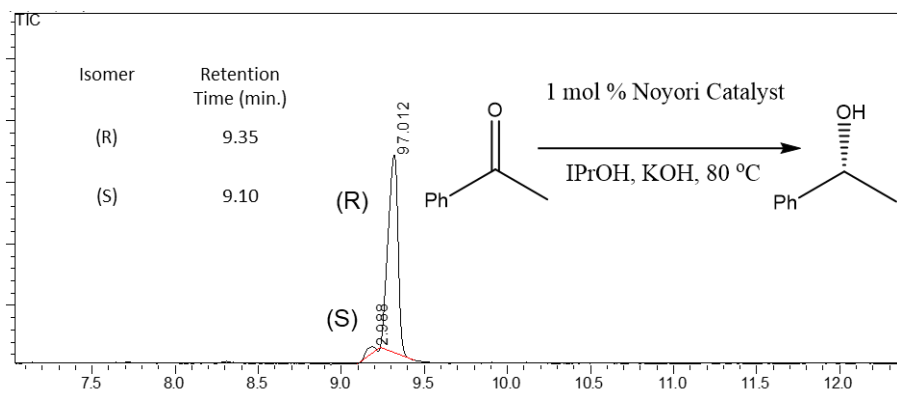
**Scheme S6.** Kinetics of ATH reactions of acetophenone using Ru@T20 and Ru@Syn



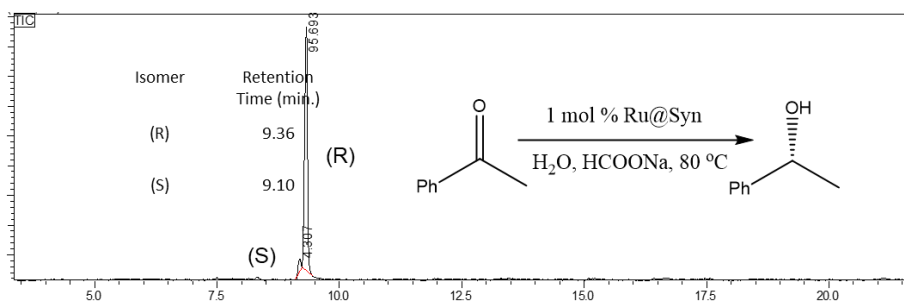
**Scheme S7.** DSC thermogram of Synperonic®F108 and Ru@Syn



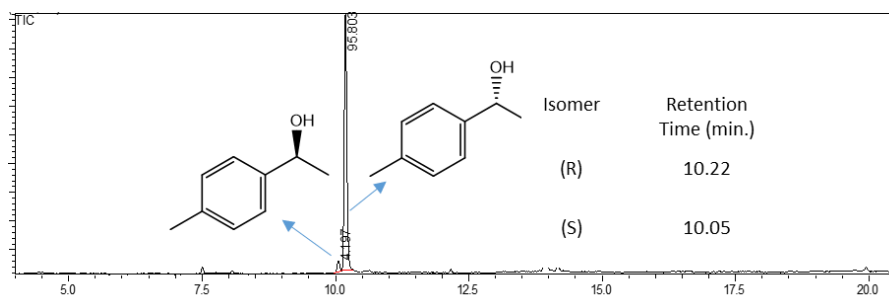
**Scheme S8.** High contrast TEM image of Ru@Syn after 8<sup>th</sup> run. As can be seen in TEM image, the nanoparticles were started to form non-uniform cluster like structures



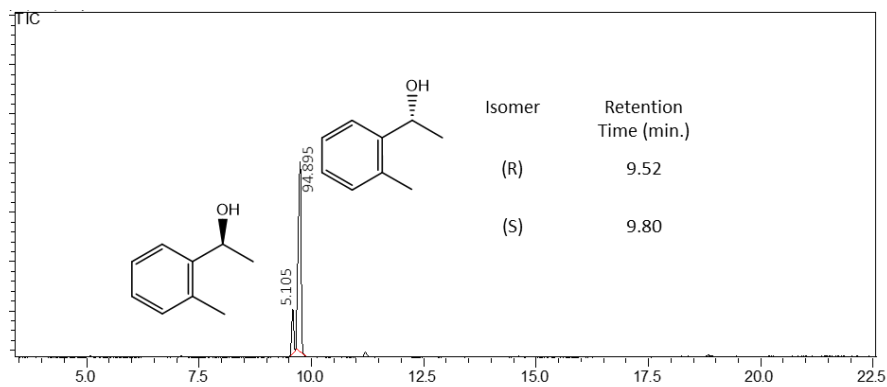
**Scheme S9.** Chiral GC analysis of ATH reactions using acetophenone (S1) in IPrOH using Noyori catalyst



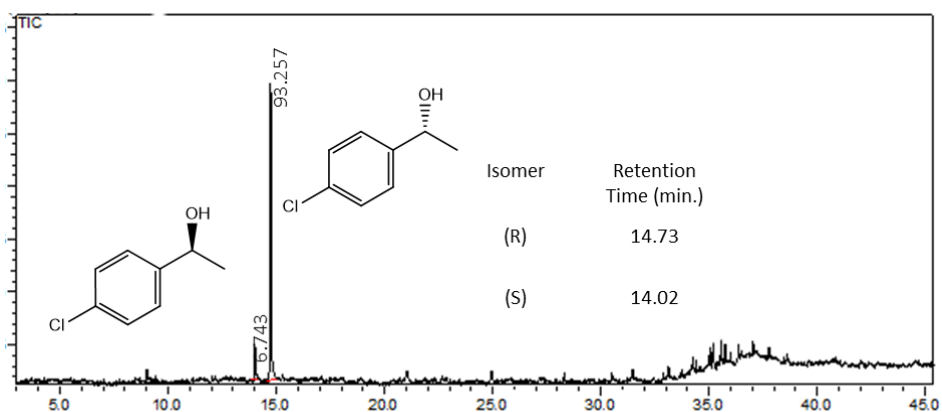
**Scheme S10.** Chiral GC analysis of ATH reactions using acetophenone (S1)



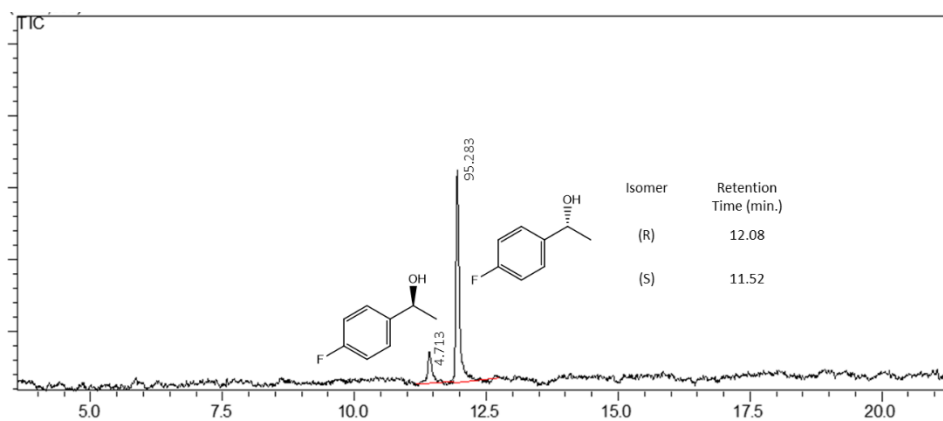
**Scheme S11.** Chiral GC analysis of ATH reactions using 4-methylacetophenone (S2)



**Scheme S12.** Chiral GC analysis of ATH reactions using 2-methylacetophenone (S3)



**Scheme S13.** Chiral GC analysis of ATH reactions using 4-chloroacetophenone (S4)



**Scheme S14.** Chiral GC analysis of ATH reactions using 4-fluoroacetophenone (S5)