

Figure S1. Flow chart of the procedure applied during the synthesis of pure LAc oligomer (oligoLAc). Abbreviations: RT—room temperature, Lac—lactic acid, p_{atm} —atmospheric pressure

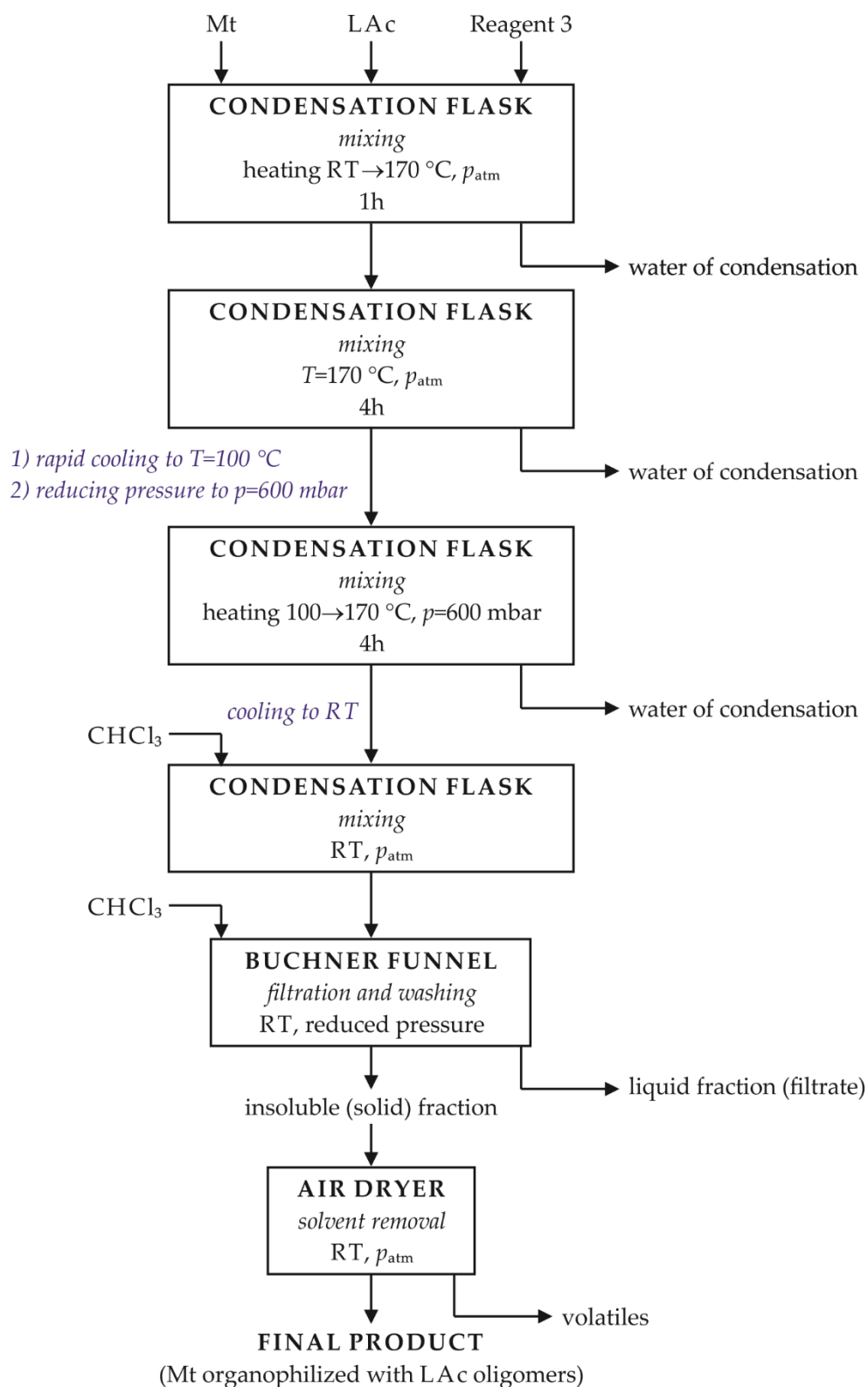


Figure S2. Flow chart of the procedure applied during the modification of montmorillonite with: lactic acid oligomers (synthesis of Mt-LAc, no Reagent 3 used), lactic acid oligomers and maleic anhydride (synthesis of Mt-LAc-MA, MA used as Reagent 3) or lactic acid oligomers and pentaerythritol (synthesis of Mt-LAc-PT, PT used as Reagent 3). Abbreviations: Mt- montmorillonite, LAc—lactic acid, MA—maleic anhydride, PT—pentaerythritol, RT—room temperature, p_{atm} —atmospheric pressure,

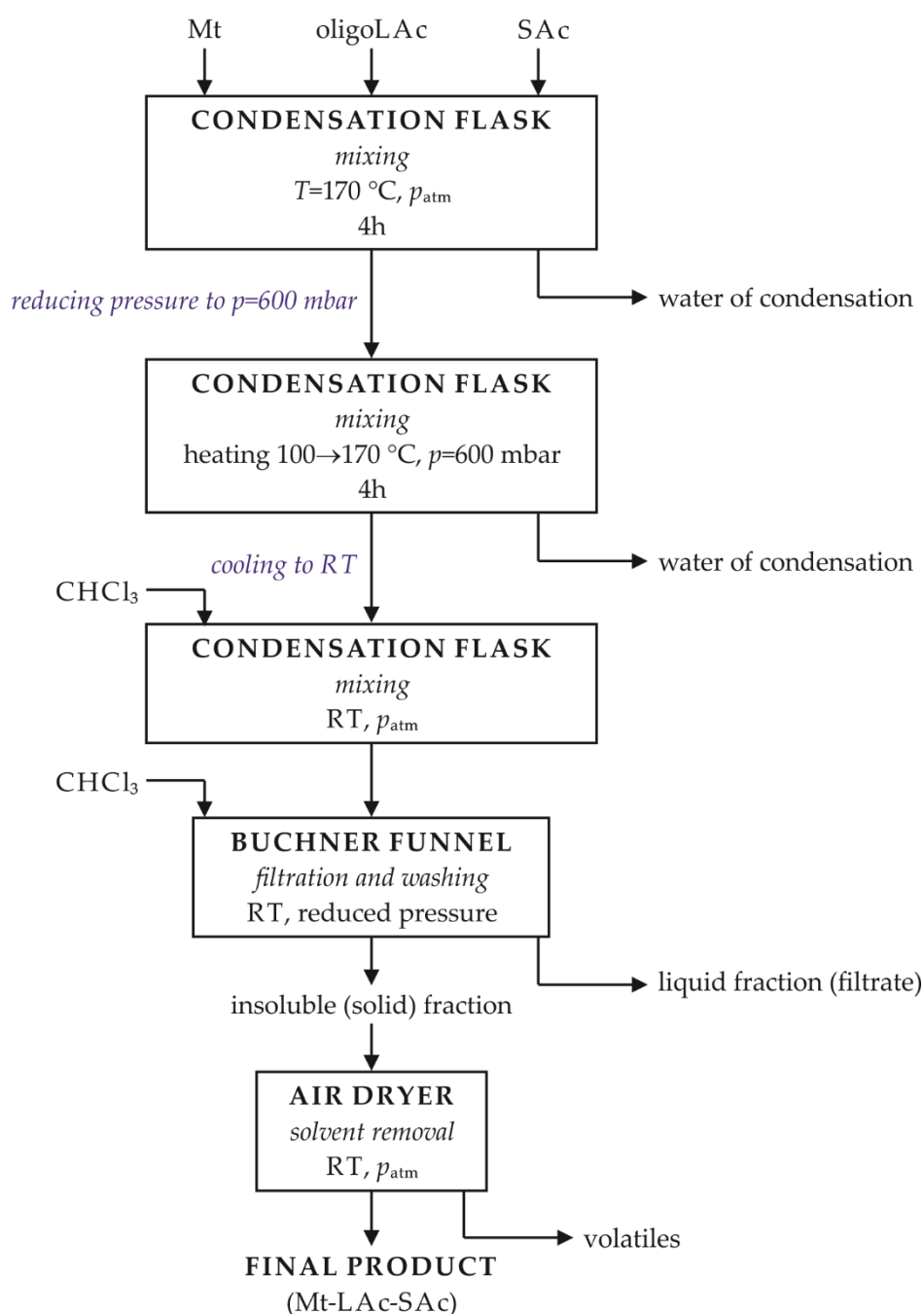


Figure S3. Flow chart of the procedure applied during the modification of montmorillonite with lactic acid oligomers and stearic acid (synthesis of Mt-LAc-SAc). Abbreviations: Mt—montmorillonite, oligoLAc—lactic acid oligomer, SAc—stearic acid, p_{atm} —atmospheric pressure, RT—room temperature,.

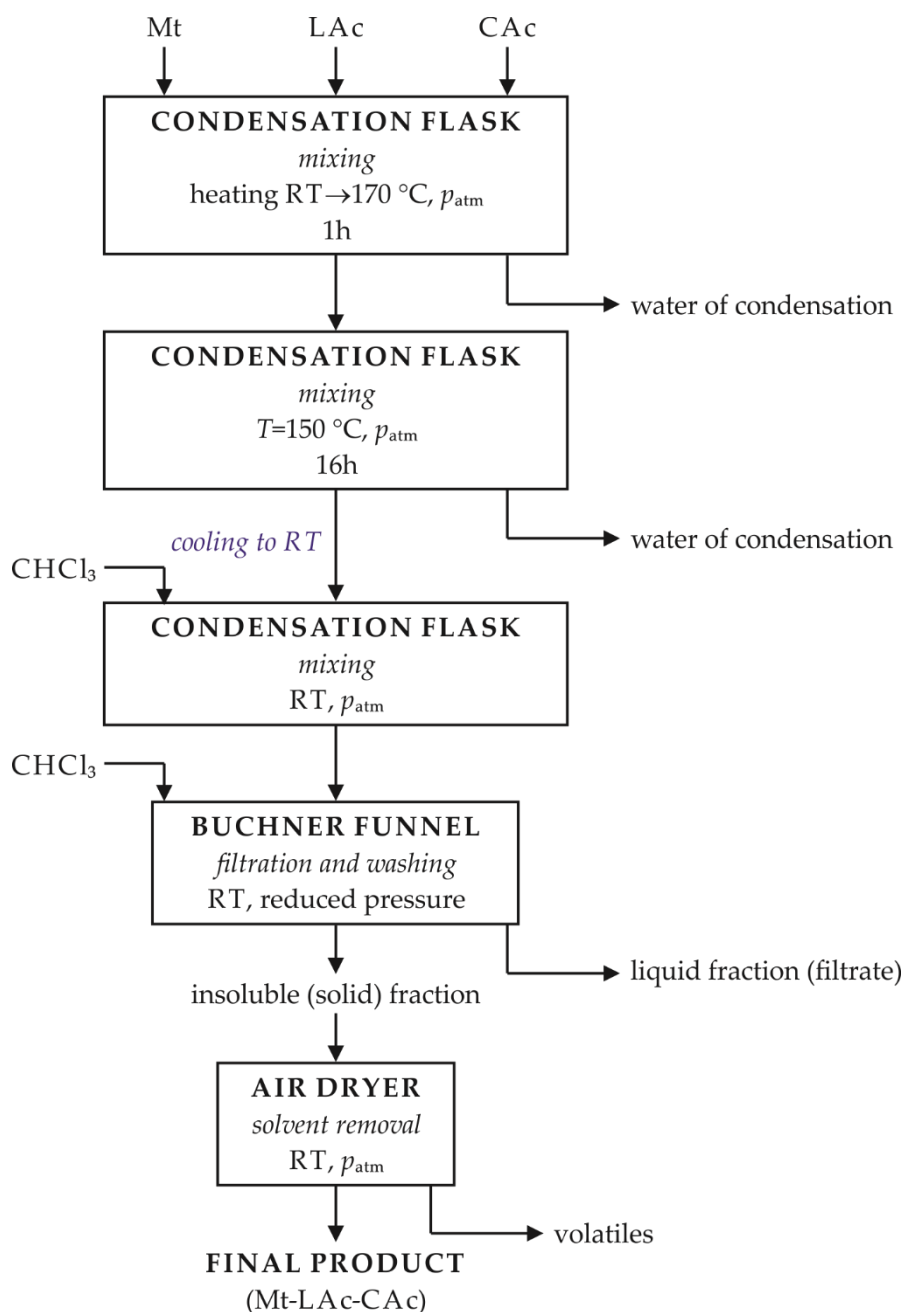


Figure S4. Flow chart of the procedure applied during the modification of montmorillonite with lactic acid oligomers and citric acid (synthesis of Mt-LAc-CAc). Abbreviations: Mt—montmorillonite, Lac—lactic acid, CAc—citric acid, RT—room temperature, p_{atm} —atmospheric pressure.

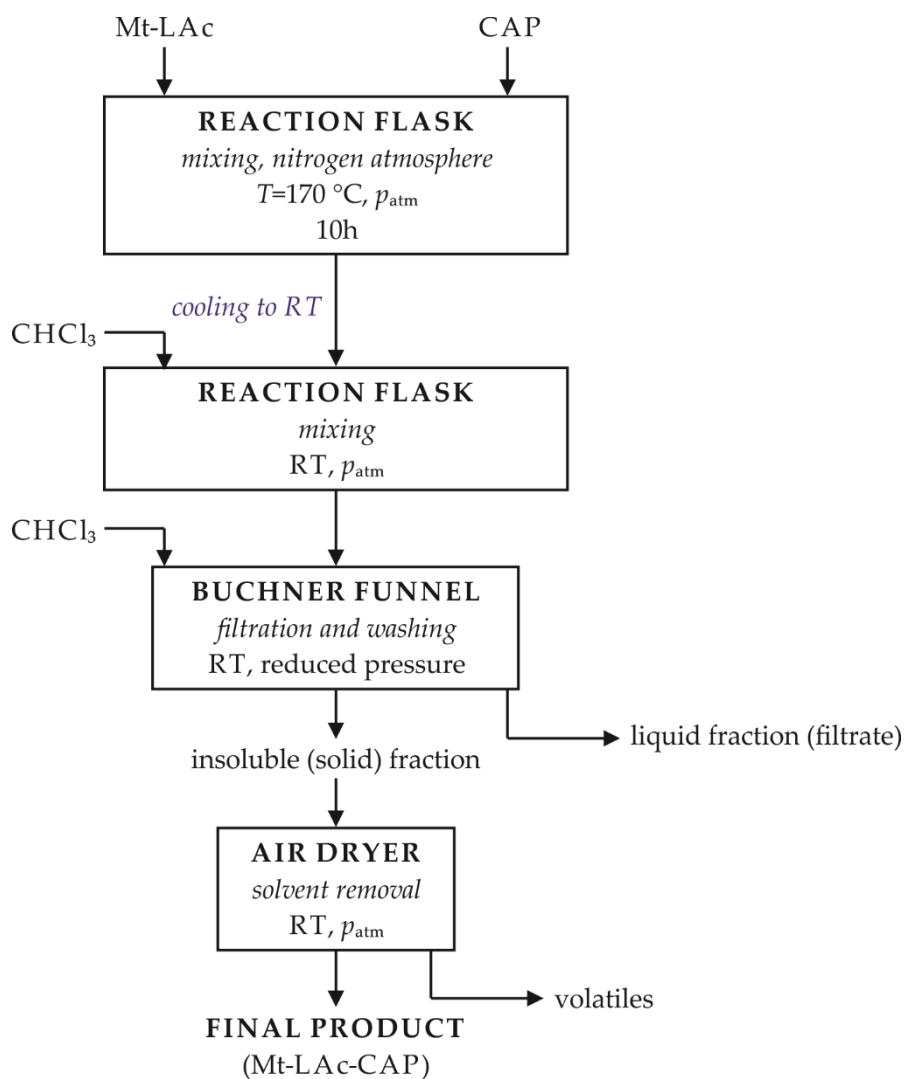


Figure S5. Flow chart of the procedure applied during the modification of montmorillonite with lactic acid oligomers and ϵ -caprolactone (synthesis of Mt-LAc-CAP). Abbreviations: Mt-montmorillonite, LAc—lactic acid, CAP— ϵ -caprolactone, RT—room temperature, p_{atm} —atmospheric pressure.