21. The process according to claim 1, further comprises subjecting said ester to hydrogenation or hydrogenolysis to produce a biofuel compound.

22. The process according to claim 1, wherein the ester is further converted into pharmaceutical, cosmetic, food or feed ingredient, or polymer materials.

23. The process according to claim 1, wherein said dried fermentation broth powder is shipped to a location different from where said fermentation broth is sourced.

24. The process according to claim 1, wherein said reaction for ester synthesis is performed at a remote location different from where said fermentation broth is sourced.

25. The process according to claim 1, wherein said dried fermentation broth powder is shipped to a location different from where said fermentation brow is sourced.

26. The process according to claim 1, wherein said ester synthesis is performed at a remote location different from where said fermentation broth is sourced.

27. An esterification method for a polycarboxylic acid comprising: providing a solution of at least one free carboxylic acid from a fermentation broth having an adjusted pH of less than 5; reacting said solution of free carboxylic acids with an alcohol in CO_2 atmosphere without any other acid catalyst; and selecting an operational reaction temperature or a reaction pressure corresponding to supercritical, critical or near critical conditions for at least one of said alcohol or CO_2 to yield an ester corresponding to said free carboxylic acid.

28. The esterification method according to claim 27, wherein said reaction temperature and pressure conditions preferentially drive said reaction towards formation of diester molecules over monoester molecules when the carboxylic acid is a polyacid.

29. The esterification method according to claim 27, wherein said reaction temperature is between about 150°C and about 250°C, and said reaction pressure is between 400 psi and about 3,000 psi, and said reaction is run for up to about 12 hours.

30. The esterification method according to claim 27, wherein said reaction temperature is in a range between about 180°C and about 245°C, and said reaction pressure is between about 950 psi and about 2,400 psi.

31. The esterification method according to claim 27, wherein said temperature is in a range between about 200°C to about 235°C, and said operational temperature is between about 1,000 psi and about 2,350 psi.