Synthesis of cholesterol-reducing sterol esters by enzymatic catalysis in bio-based solvents or solvent-free

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Figure S1. Kinetic screening of the esterification of β-sitosterol using different lipase enzymes. The control experiment contained no enzyme. CR= Candida rugosa, CALA= Candida antarctica lipase A, CALB= Candida antarctica lipase B.
Figure S2: Plot of the natural logarithm of the initial reaction rate in different solvents versus their polarity. No correlation is seen.

Figure S3: Plot of the natural logarithm of the initial reaction rate in different solvents versus their basicity. No correlation is seen.
Figure S4: Plot of the natural logarithm of the initial reaction rate in different solvents versus their molar volume. No correlation is seen.

Figure S5: Plot of the natural logarithm of the initial reaction rate in different solvents versus log $P_{ow}$. The equation $y = 1.2371x - 8.3162$ with $R^2 = 0.8564$ is the best fit line.
their partitioning coefficient. A correlation is seen with an R² = 0.86. The solvents that follow the trend are shown in red. The three outliers are shown in blue.

Figure S6. Kinetic study of the esterification of β-sitosterol at different reaction temperatures.

Figure S7. Kinetic study of the esterification of β-sitosterol with different acyl donors. Butyric acid (C4:0); Caprylic acid (C8:0); Lauric acid (C12:0); Stearic acid (C16:0) and Behenic acid (C22:0).
Figure S8. $^1$H NMR spectrum of β-sitosterol.
Figure S9. $^{13}$C NMR spectrum of β-sitosterol.
Figure S10. $^1$H NMR spectrum of Stearic acid.
Figure S11. $^{13}$C NMR spectrum of Stearic acid.
Figure S12. $^1$H NMR spectrum of ß-sitosterol ester. Characteristic peaks assigned to protons by A-F.
Figure S13. $^{13}$C NMR spectrum β-sitosterol ester. Characteristic peaks assigned to carbons by A-D.