Supplementary Materials

Production of D-lactate from avocado seed hydrolysates by metabolically engineered *Escherichia coli* JU15

*Figure S1*: Kinetic of *Escherichia coli* JU15 in bioreactor at 40 g L\(^{-1}\) initial reducing sugars, 200 rpm, 37 °C, and pH 6.6.

*Figure S2*: Kinetic of *Escherichia coli* JU15 in bioreactor at 70 g L\(^{-1}\) initial reducing sugars, 200 rpm, 37 °C, and pH 6.6.
Figure S3: Photography of the bioreactor before and after the fermentation. a) with ASH sterile medium previous the fermentation. b) with the ASH based medium after grown of *Escherichia coli* JU15 for 72 hours.

Purification of D-lactate

After completing the fermentation process, approximately 4 days later on, D-lactate was purified following the process reported by Benthin and Villadsen (1995) by using a solution of MgCl₂·6H₂O until the evaporation of the medium. The solution was extracted with butanol, and subsequently, the extraction of lactic acid was carried out in two consecutive steps: (a) its extraction from the aqueous solution as magnesium lactate into a butanol phase as free acid and, (b) a back-extraction to aqueous solution as sodium lactate.

Reference:

Figure S4. HPLC profiles on lactic acid production. (a) standard of lactic acid, (b) ASH medium alone (previous fermentation occurred), (c) 96 h-fermentation sample, and (d) a purified sample of lactic acid. The lactic acid peak is identified by its retention time to around 9.9 min.