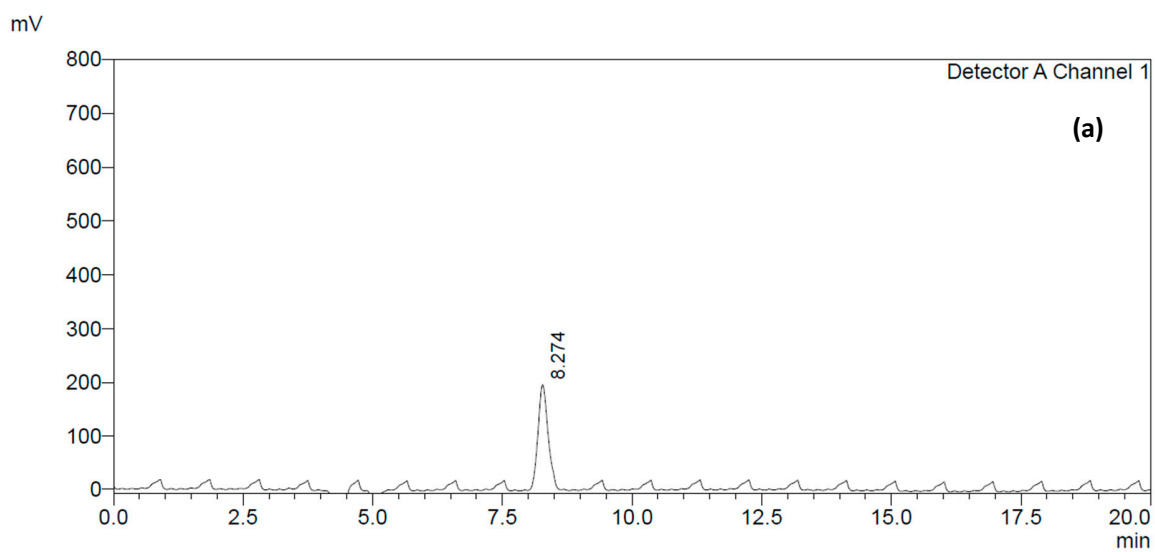


Supplementary material



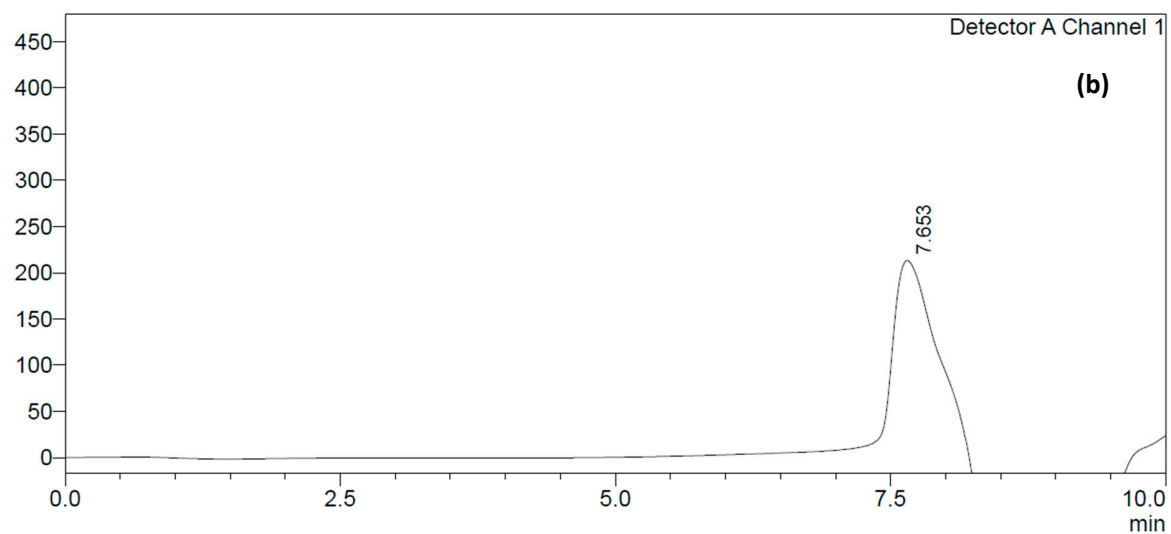
Figure S1 GPS image of the source of WH collected (Potheri: 12°49'03.6"N 80°02'45.3"E). The arrows indicate the infestation of the aquatic weed



Detector A Channel 1

Peak Table

Peak#	Ret. Time	Area	Height	Area%
1	8.274	2682341	196699	100.000
Total		2682341	196699	100.000



Peak Table

Detector A Channel 1				
Peak#	Ret. Time	Area	Height	Area%
1	7.653	5379049	201720	100.000
Total		5379049	201720	100.000

Figure S2 HPLC Chromatogram (a) Standard xylitol (b) Xylitol peak for *Rhodospiridium toruloides* NCIM 3547

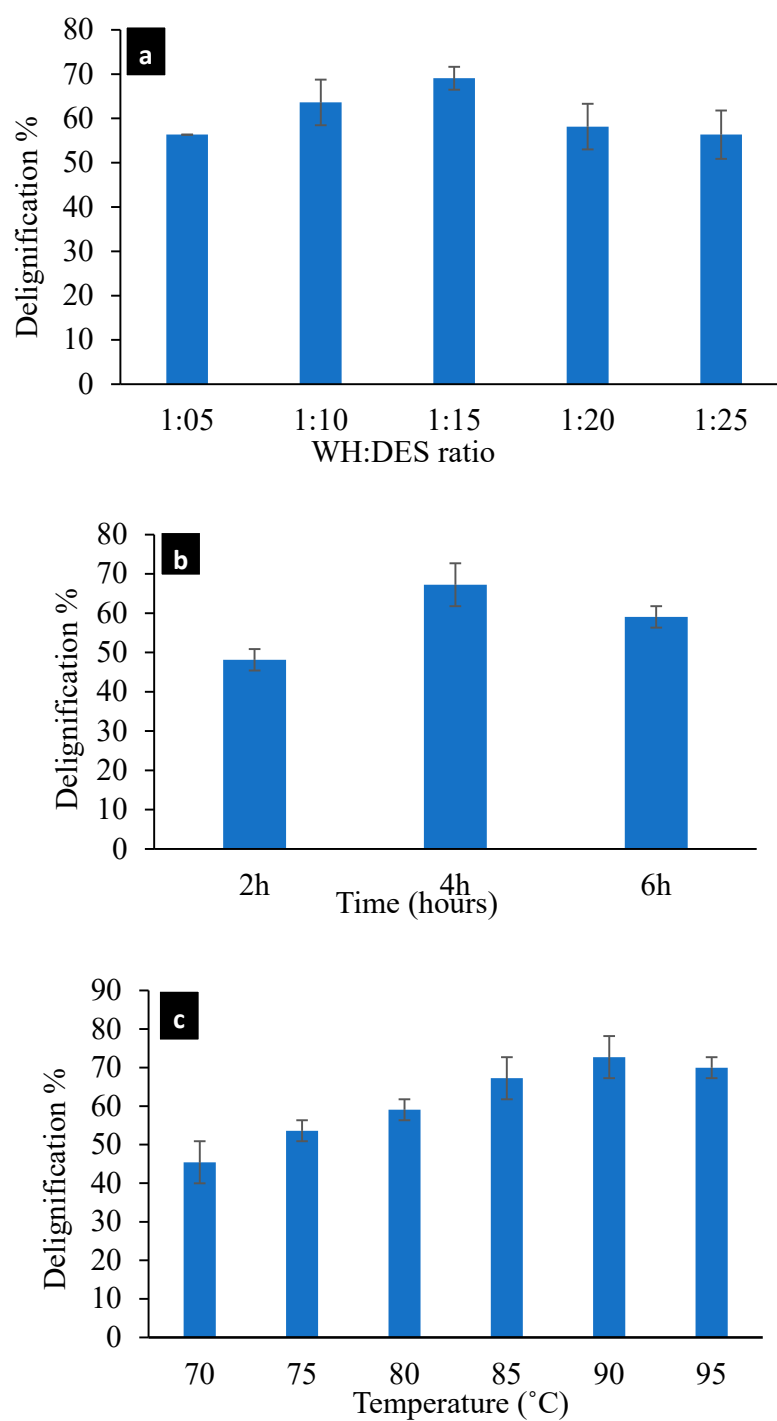


Figure S3. Effect of (a) WH:DES ratio, (b) Time and (c) Temperature on percentage delignification (All the treatments were done in triplicates and the values represent mean \pm standard deviation)

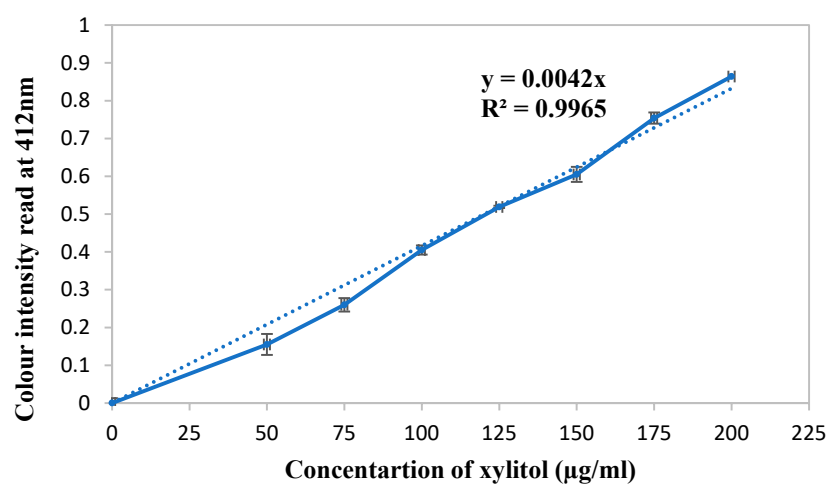
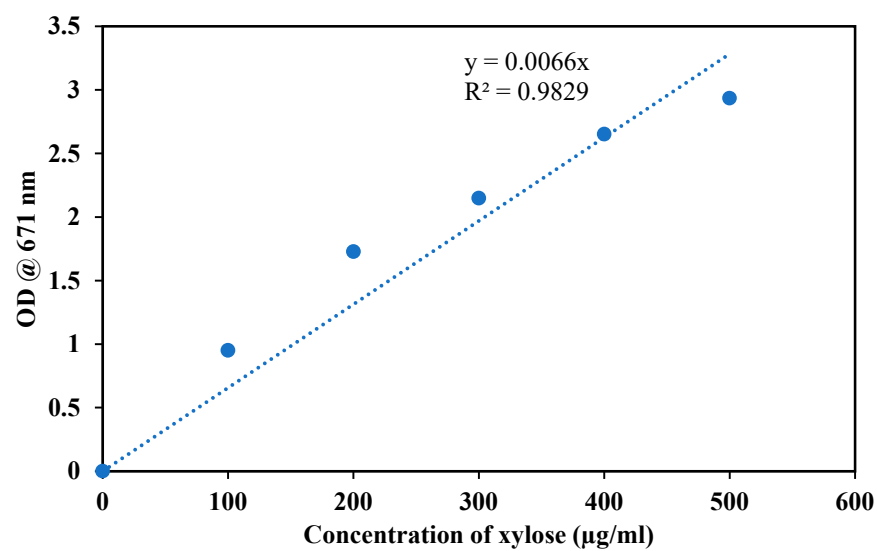


Figure. S4 Standard plot for (a) Xylose (b) Xylitol

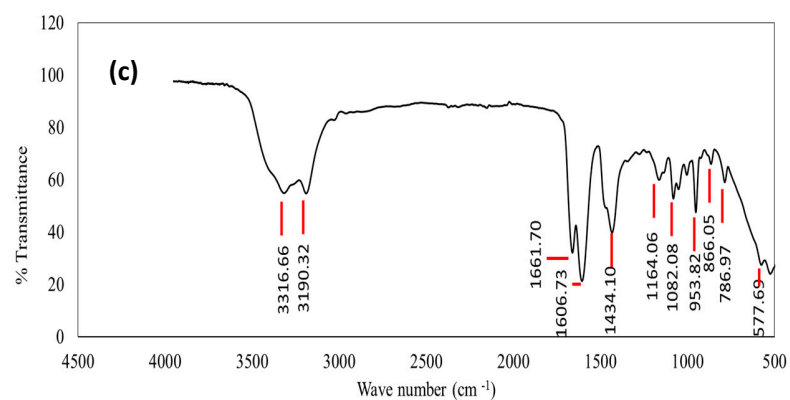
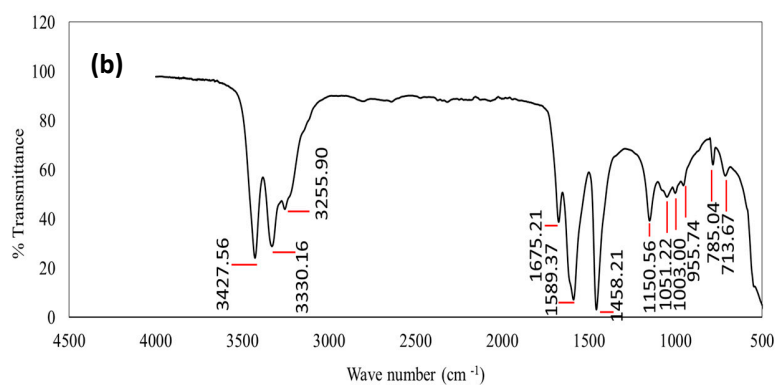
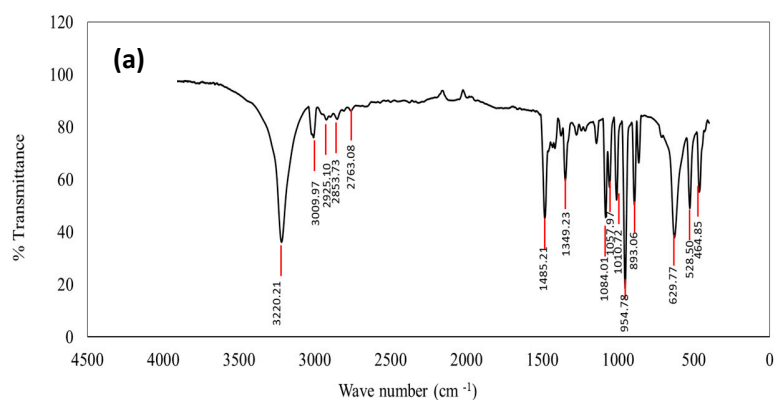


Figure S5. FTIR spectra of (a) Choline chloride (b) Urea
(c) Choline chloride:Urea

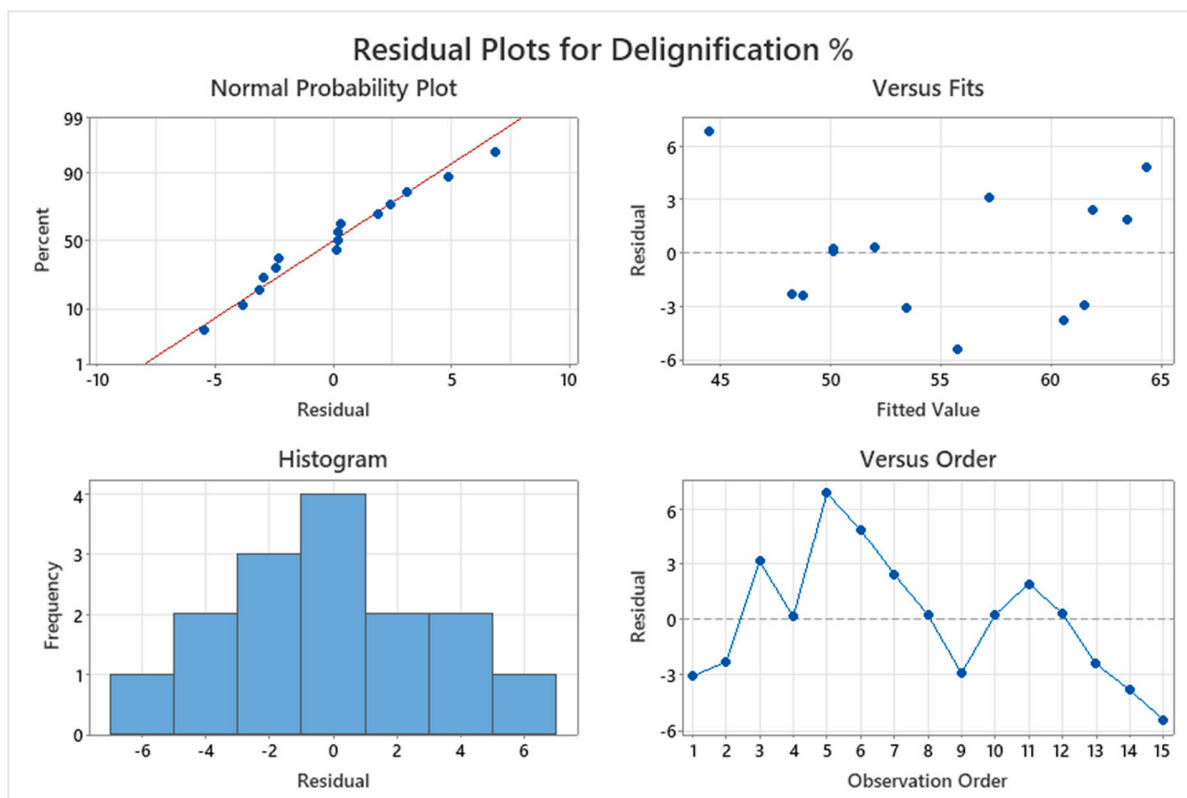
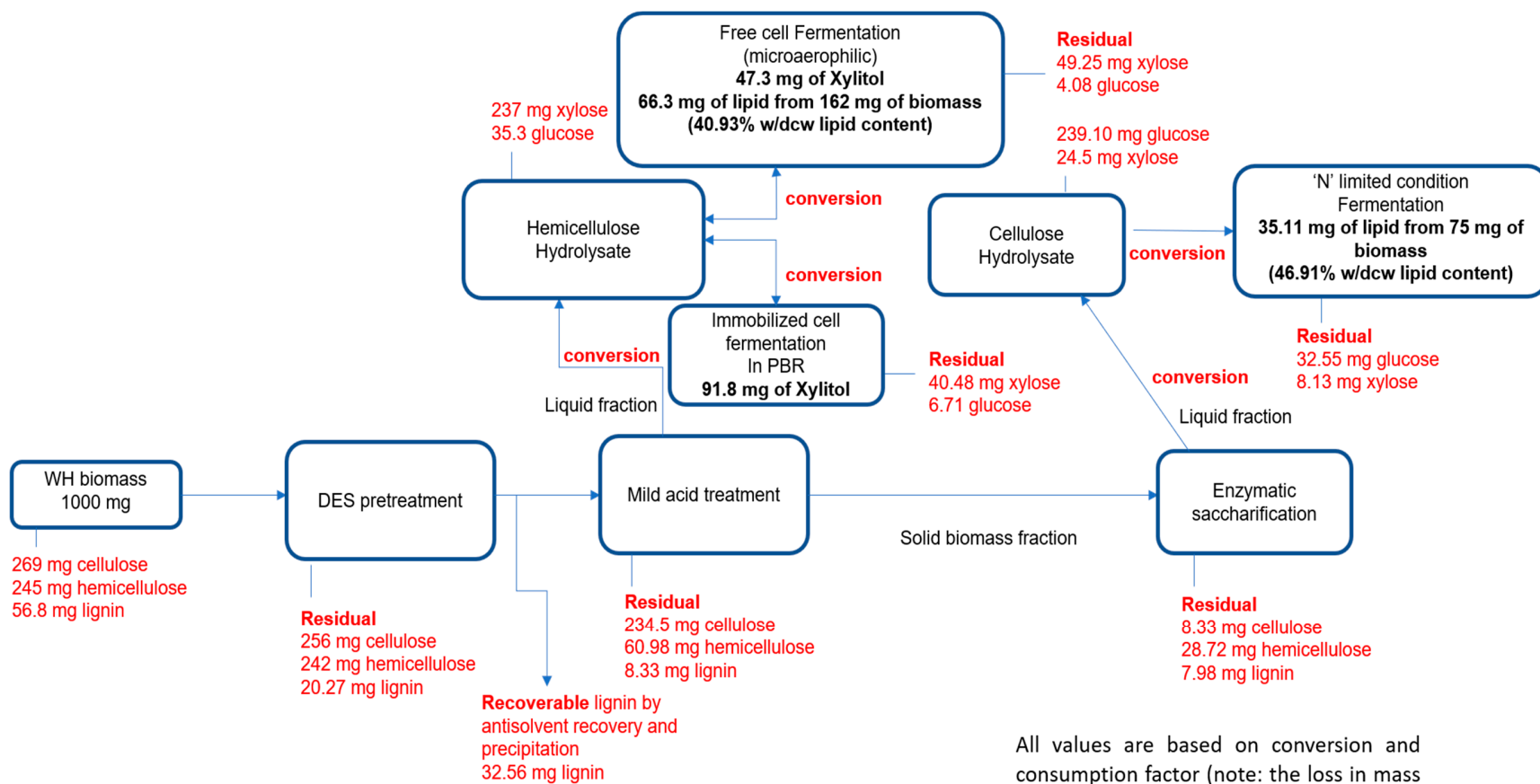


Figure S6. Residual plots for the optimization of WH pretreatment using DES through BBD-RSM



All values are based on conversion and consumption factor (note: the loss in mass flow has not represented)

Figure S7. Mass flow of WH during pretreatment, saccharification (cellulose and hemicellulose) and fermentation for co-production of xylitol and lipid