Electronic Supplementary Material (ESI) for RSC Advances.

Electronic Supplementary information

Silica-Supported Boric Acid Assisted Conversion of Mono- and Poly-saccharides to 5-Hydroxymethylfurfural in Ionic Liquid

Mayanka Walia, Upendra Sharma, Vijai K. Agnihotri,*Bikram Singh*

Spectras and chromatograms of product HMF

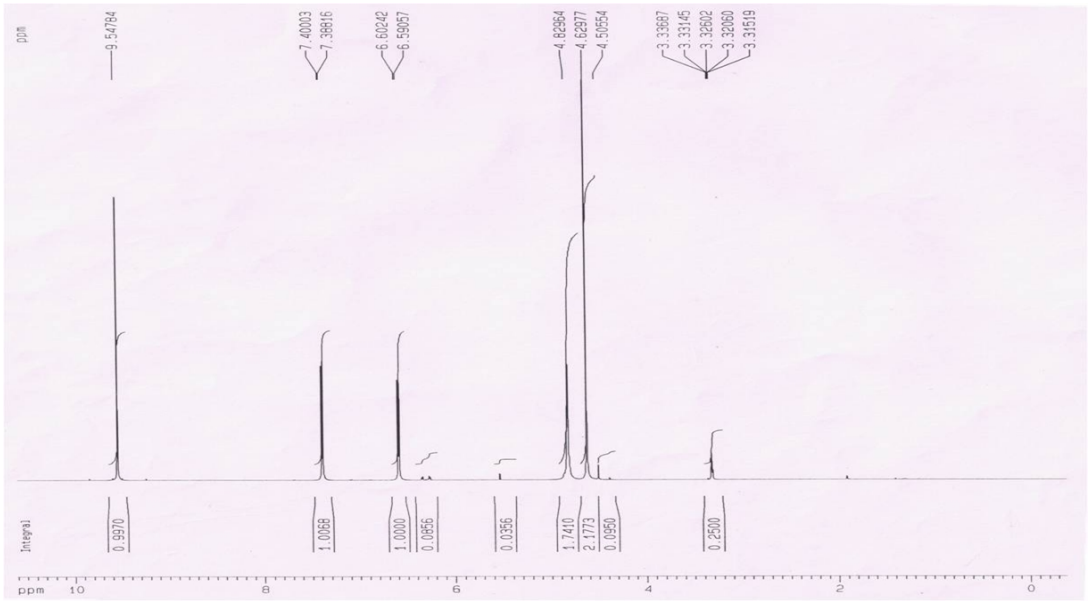

Fig. S1 ^{1}H-NMR spectra of isolated 5-HMF

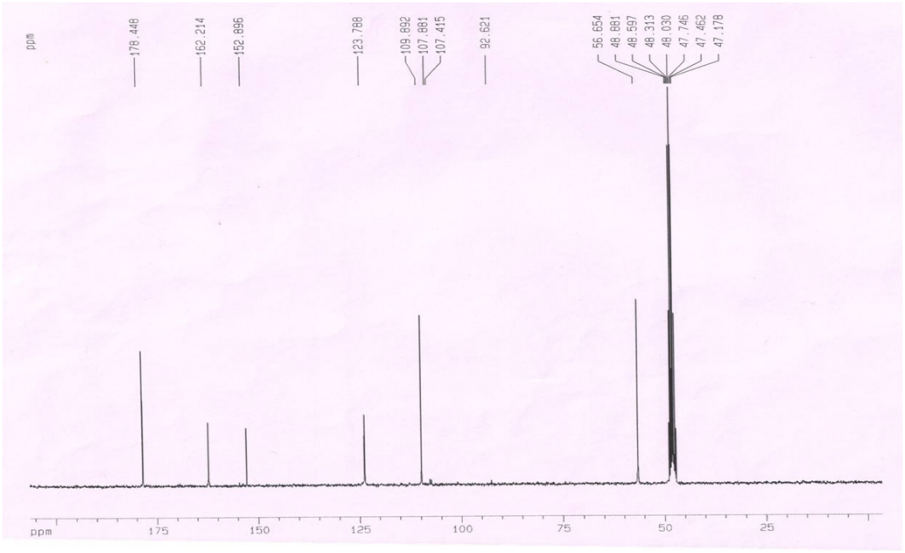

Fig. S2 ^{13}C-NMR spectra of isolated 5-HMF

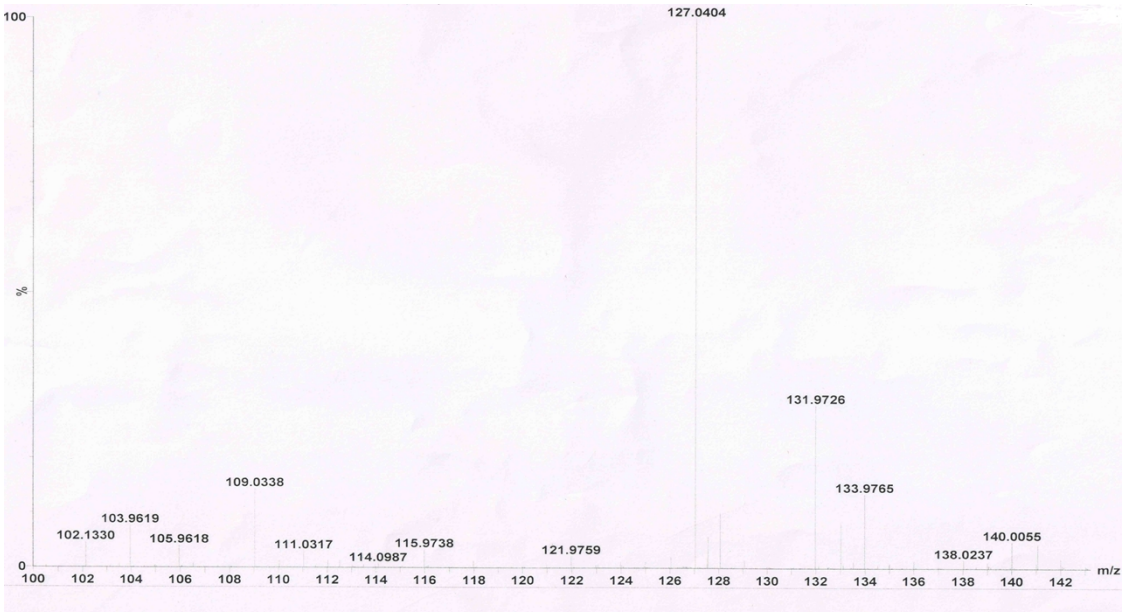

Fig. S3 LC-HRMS chromatogram of isolated 5-HMF

GC yield was calculated as

$$\text{GC yield (\%)} = \frac{\text{ratio of product}}{\text{ratio of HMF standard}} \times 100$$

$$\text{where ratio of product} = \frac{\text{area of HMF product}}{\text{area of internal standard}}$$

$$\text{ratio of HMF standard} = \frac{\text{area of HMF standard}}{\text{area of internal standard}}$$

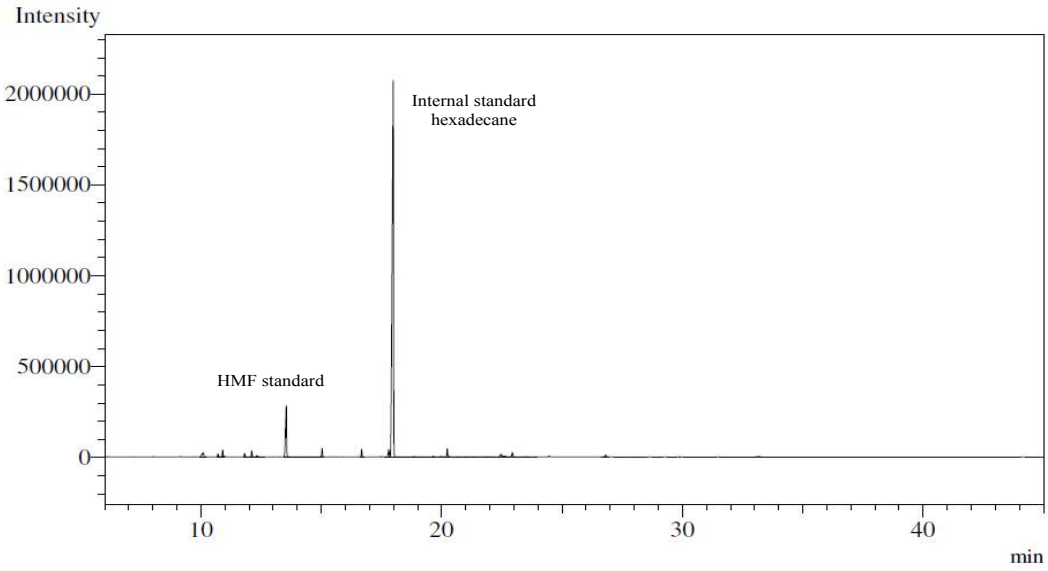

Fig. S4 GC chromatogram of HMF standard

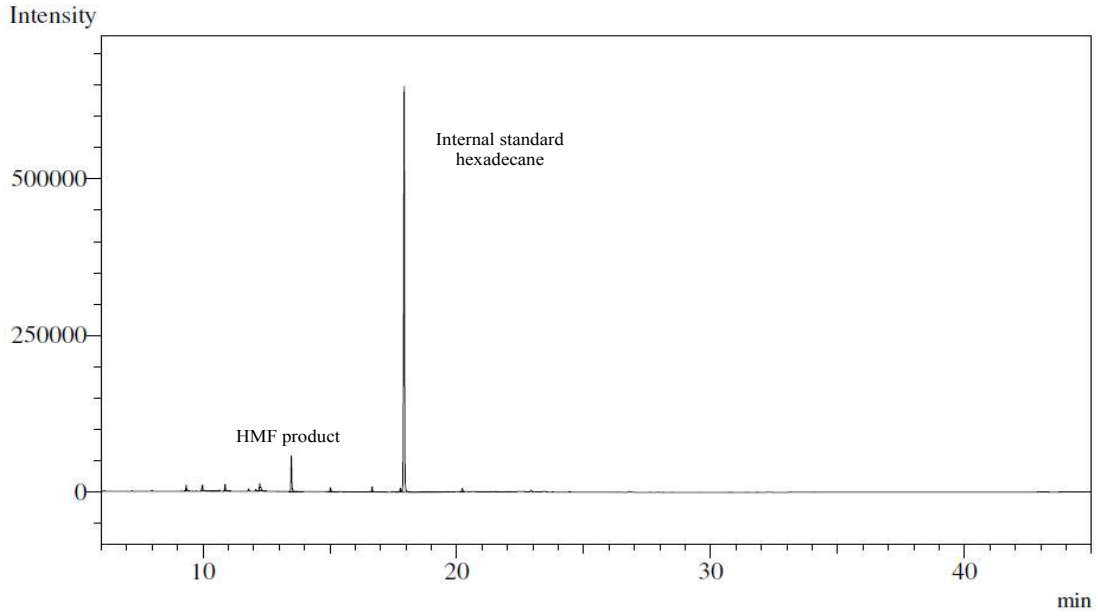

Fig. S5 GC chromatogram of HMF obtained by conversion of fructose (without catalyst)

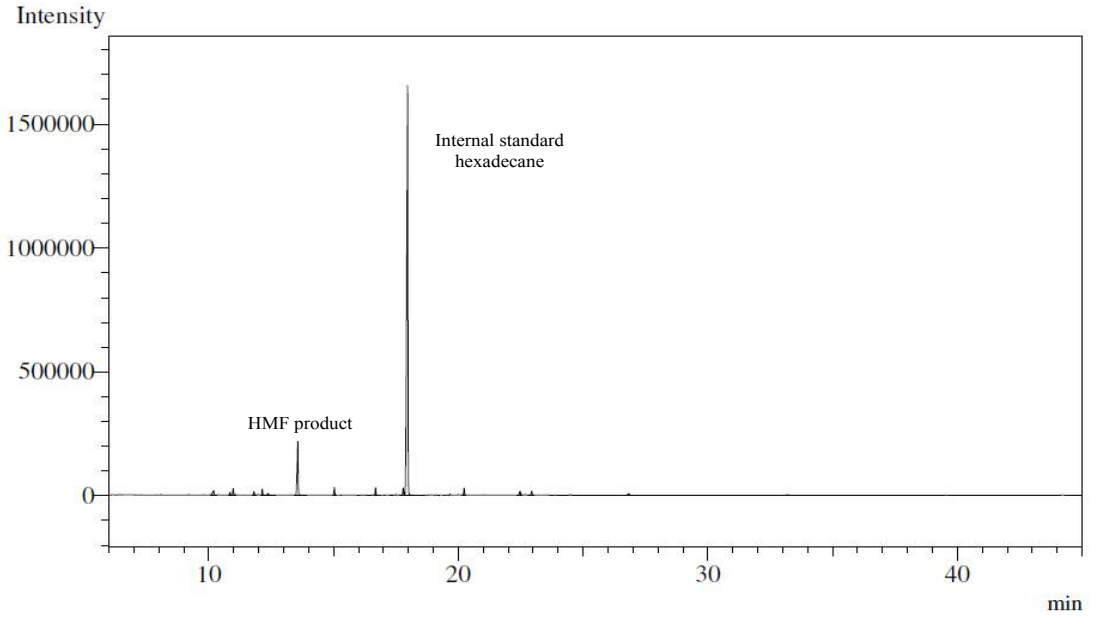

Fig. S6 GC chromatogram of HMF obtained by conversion of fructose (using catalyst)

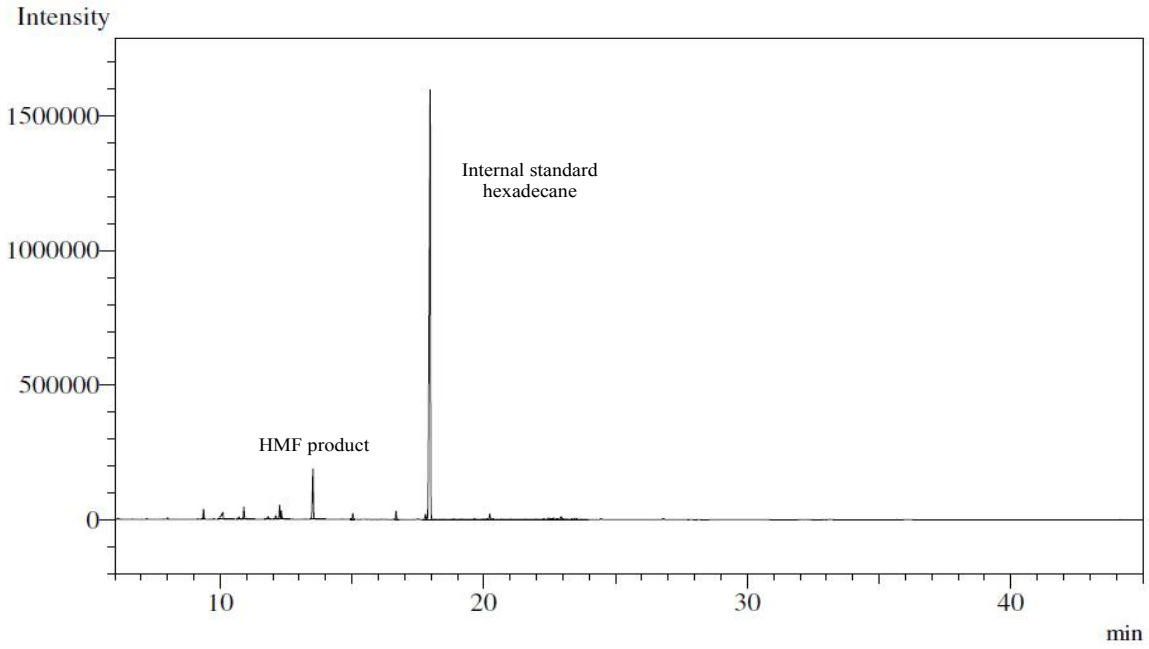

Fig. S7 GC chromatogram of HMF obtained by conversion of sucrose (with catalyst)

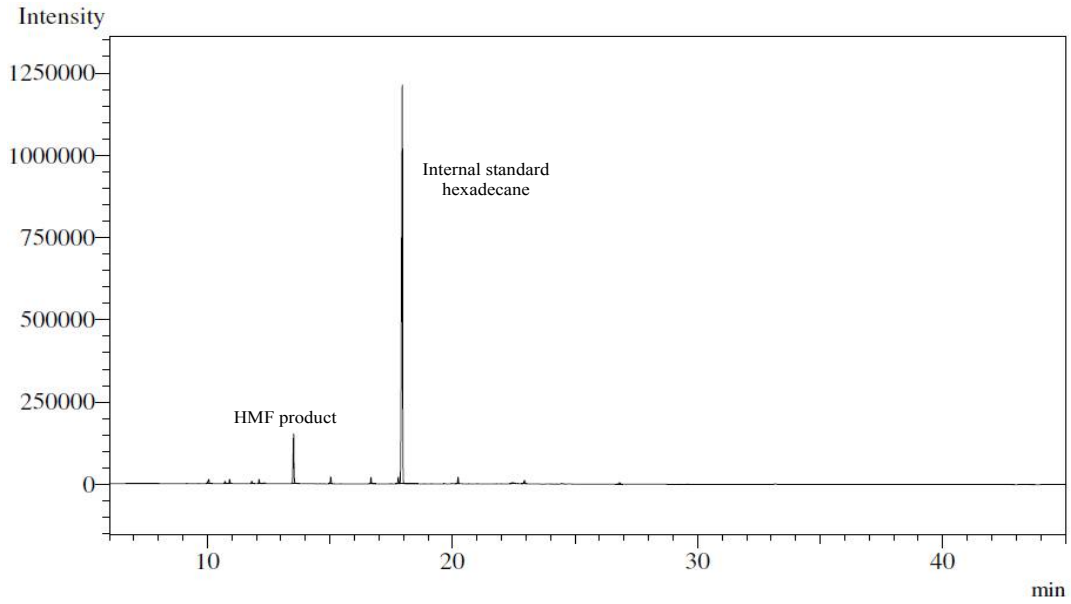

Fig. S8 GC chromatogram ofHMF obtained by conversion of inulin (with catalyst)

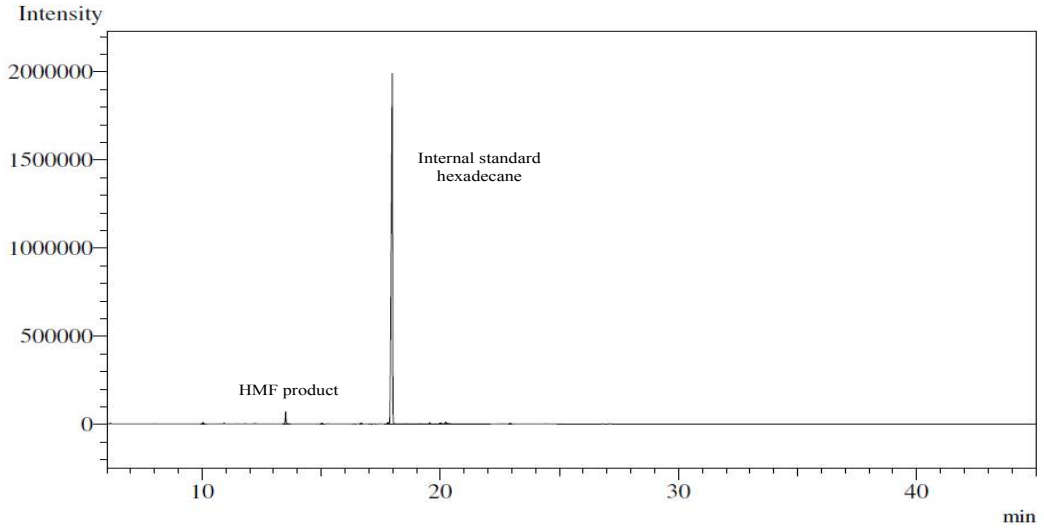

Fig. S9 GC chromatogram of HMF obtained by conversion of cellulose (with catalyst)

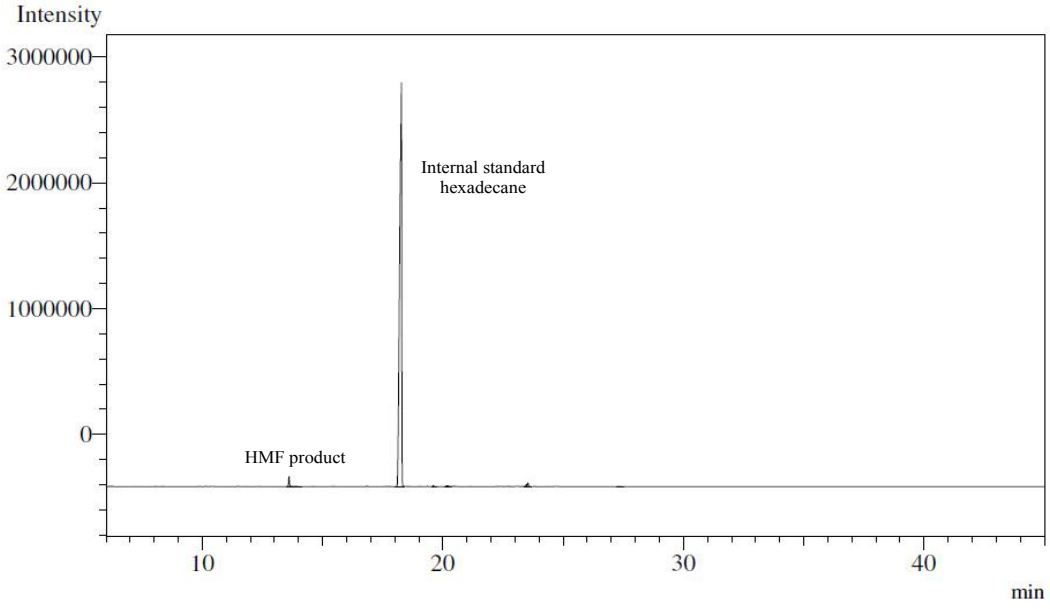

Fig. S10 GC chromatogram of HMF obtained by conversion ofglucose (with sodium borate as a catalyst)

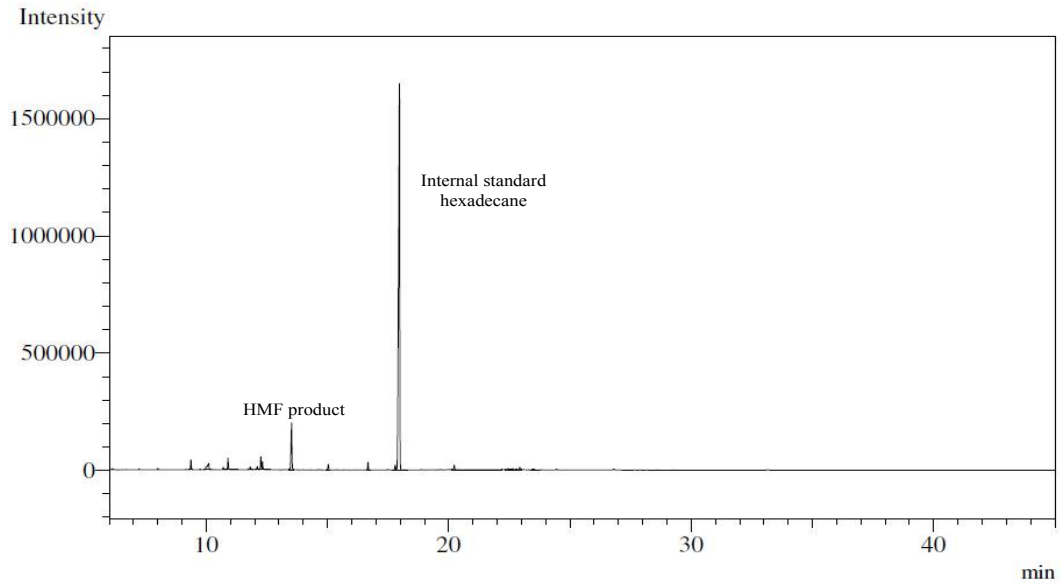

Fig. S10 GC chromatogram ofHMF obtained by conversion ofglucose (Run 1; for Catalytc system recyclability)

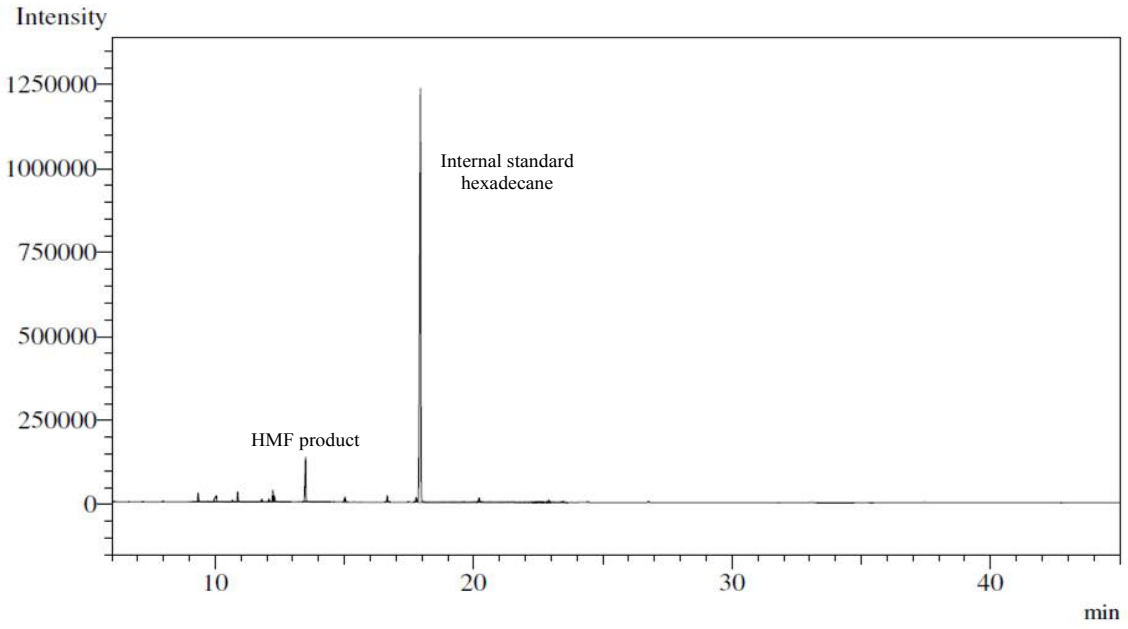

Fig. S11 GC chromatogram of HMF obtained by conversion ofglucose (Run 2; for Catalytc system recyclability)

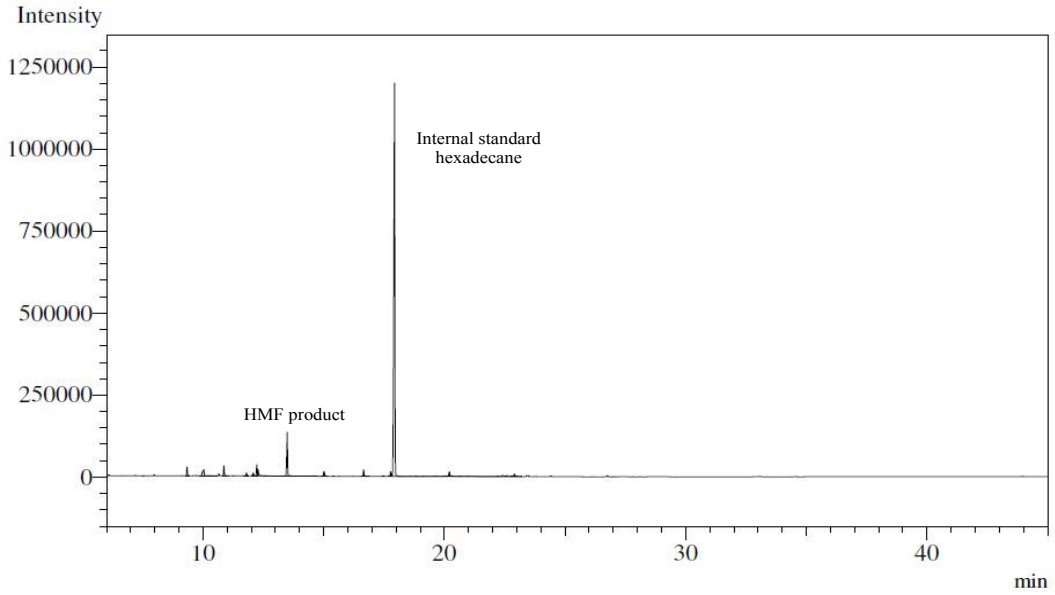

Fig. S12 GC chromatogram of HMF obtained by conversion ofglucose (Run 3; for Catalytc system recyclability)

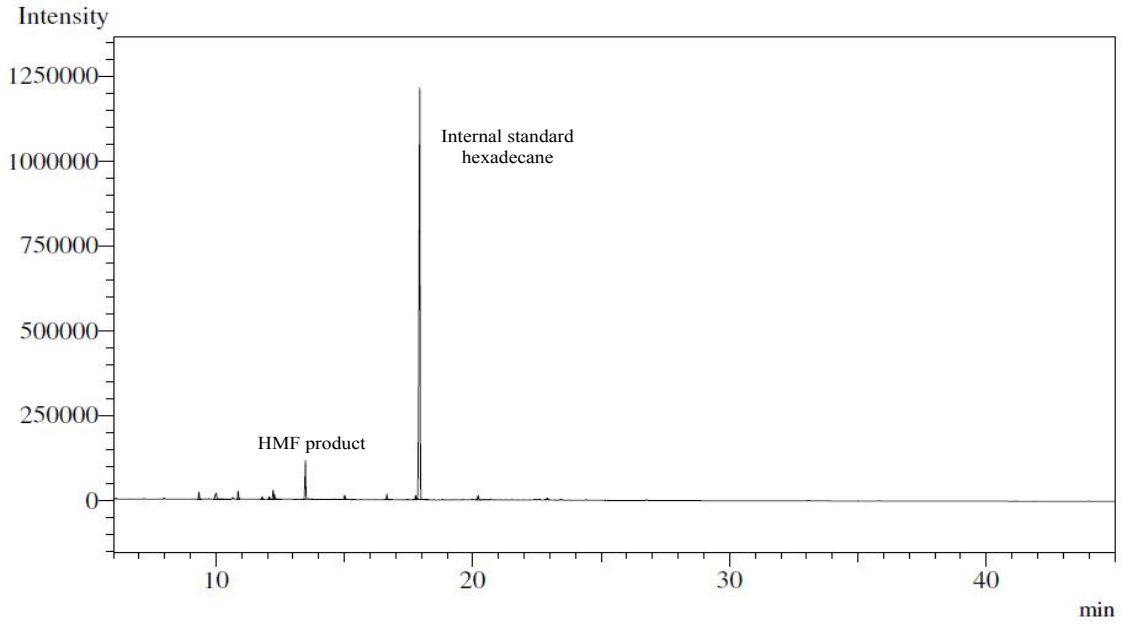

Fig. S13 GC chromatogram of HMF obtained by conversion ofglucose (Run 4; for Catalytc system recyclability)