

**Furan-rich, Biobased Transfection Agents as Potential Oligomeric Candidates for
Intracellular Plasmid DNA Delivery**

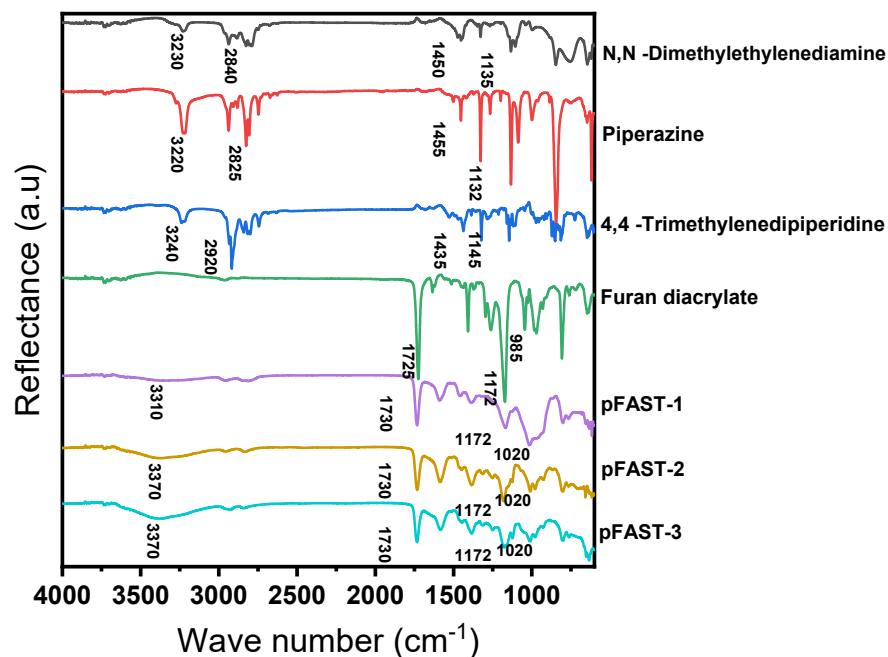
*Ashique Al Hoque,^{1,3} Prakash Kannaboina,² Yeabstega Abraham,⁴ Masfique Mehedi,⁴ Mukund P. Sibi,²
and Mohiuddin Quadir^{1*}*

¹Department of Coatings and Polymeric Materials, North Dakota State University, Fargo, ND 58108, USA.

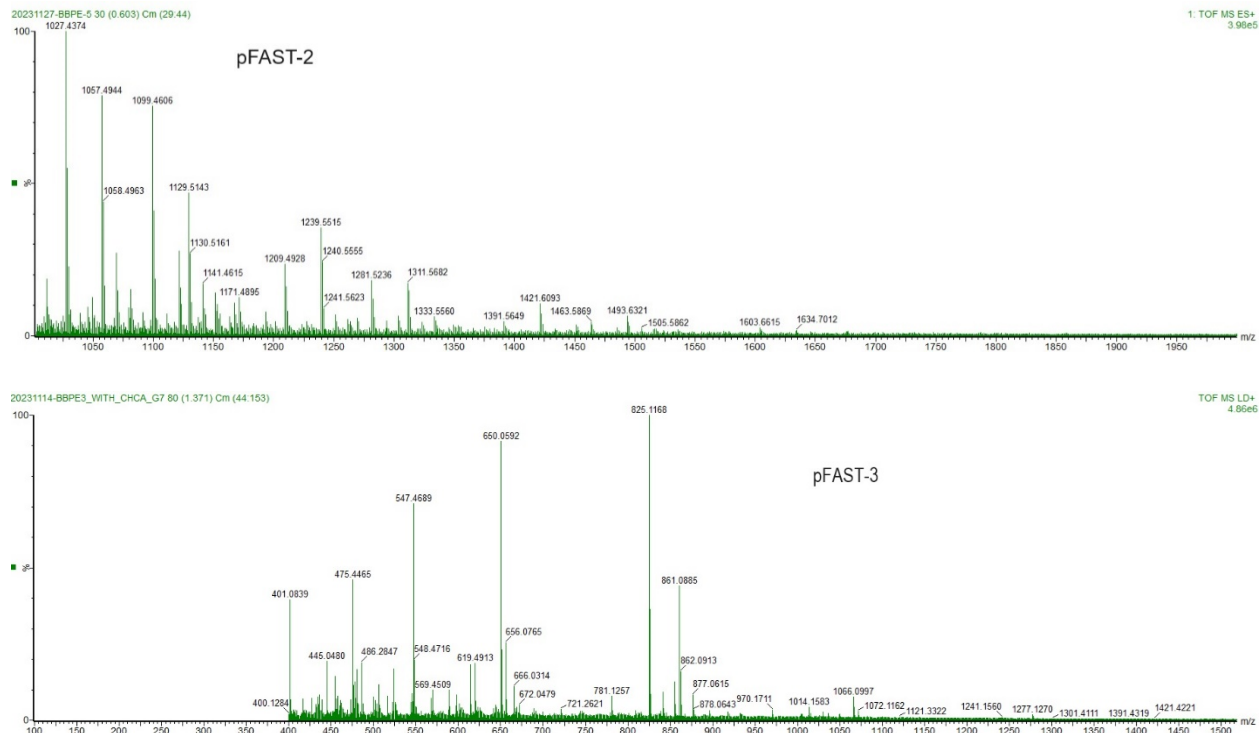
²Department of Chemistry Biochemistry, North Dakota State University, Fargo, ND, 58108, USA.

³Department of Pharmaceutical Technology, Jadavpur University, Kolkata, India.

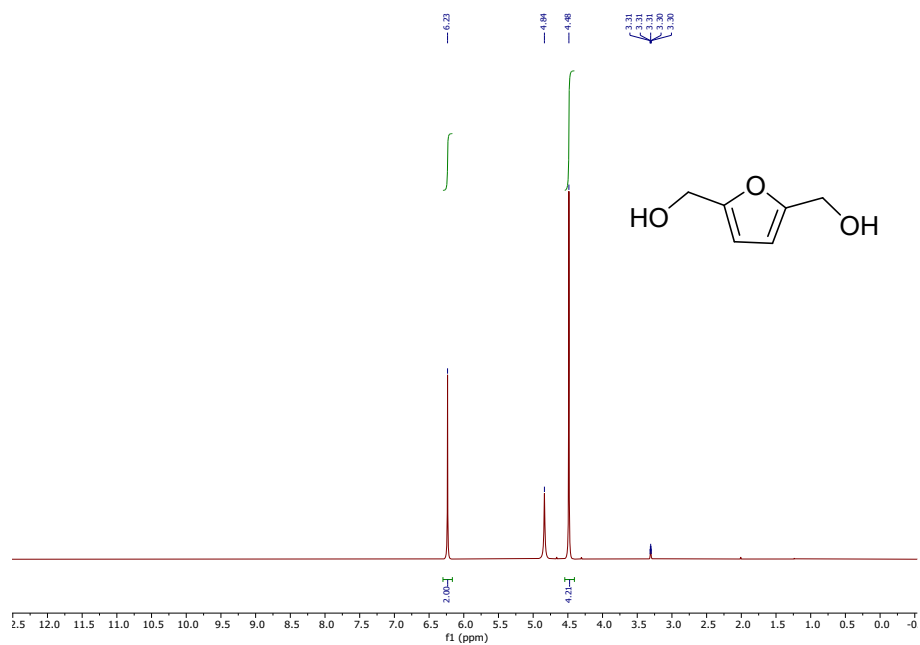
⁴Department of Biomedical Sciences, University of North Dakota School of Medicine & Health, Grand
Forks, ND 58202, USA



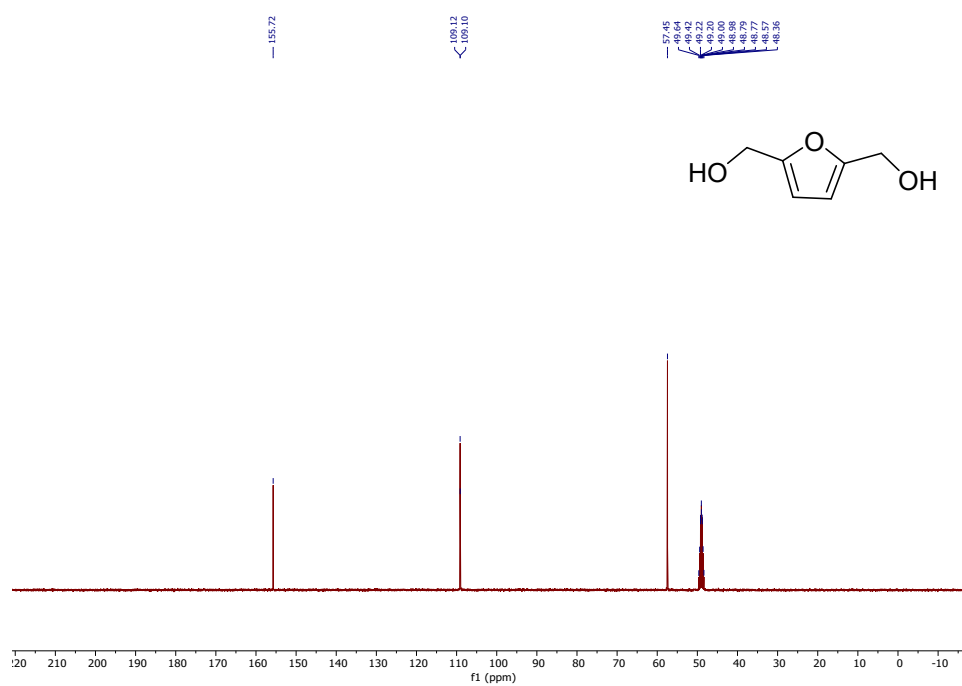
Supporting Information Figure S1: ATR-FTIR of pFAST derivatives and monomers.



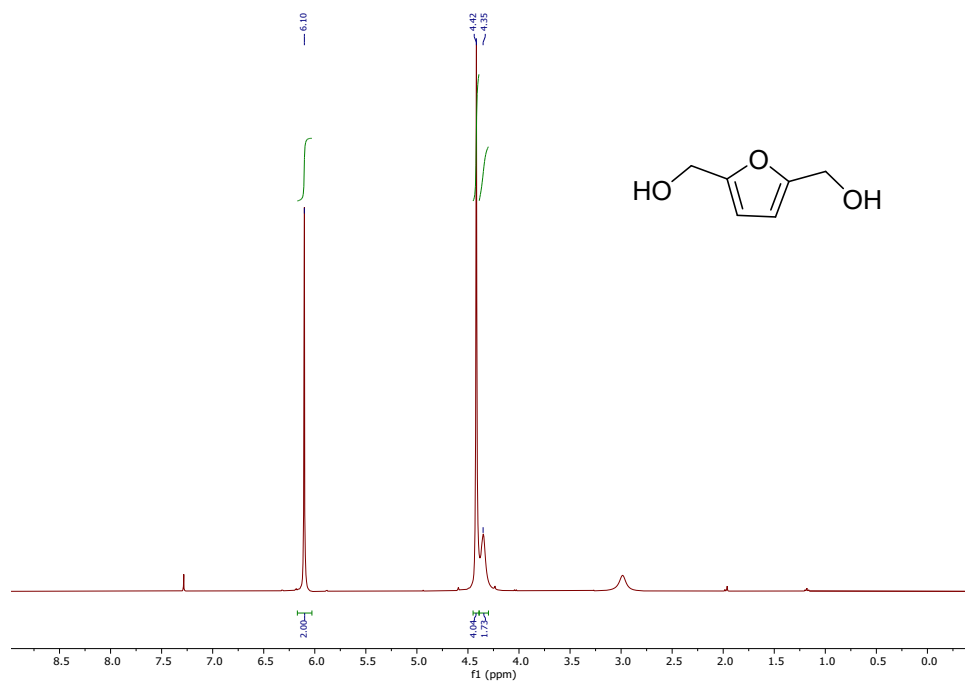
Supporting Information Figure S2: MALDI-ToF data of PFAST-2 (top panel) and 3 (bottom panel).



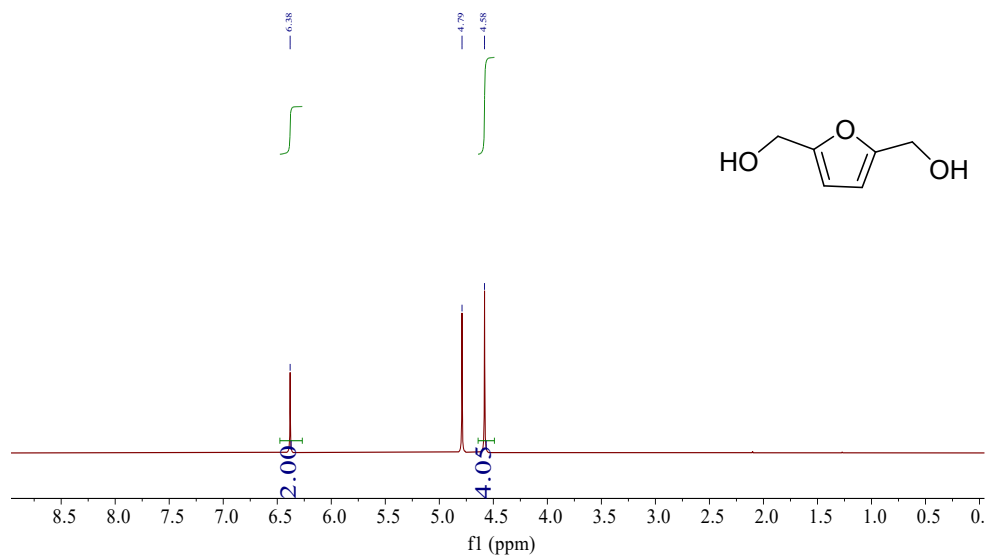
Supporting Information Figure S2A: ^1H NMR of 2,5-Bis(hydroxymethyl)furan (BHMf) in CD_3OD .



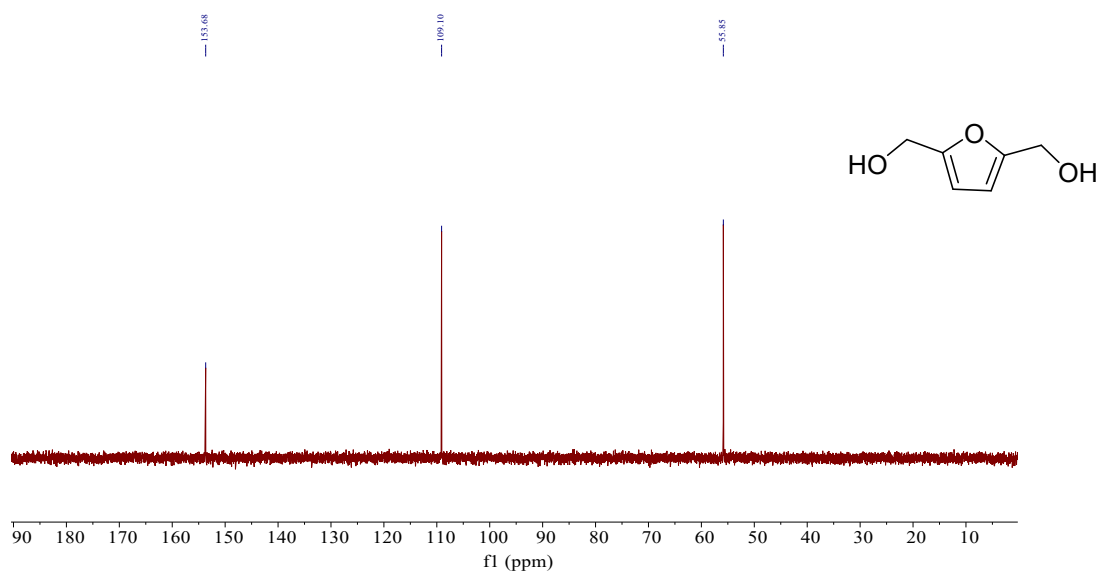
Supporting Information Figure S2A: ^{13}C NMR of 2,5-Bis(hydroxymethyl)furan (BHMf) in CD_3OD .



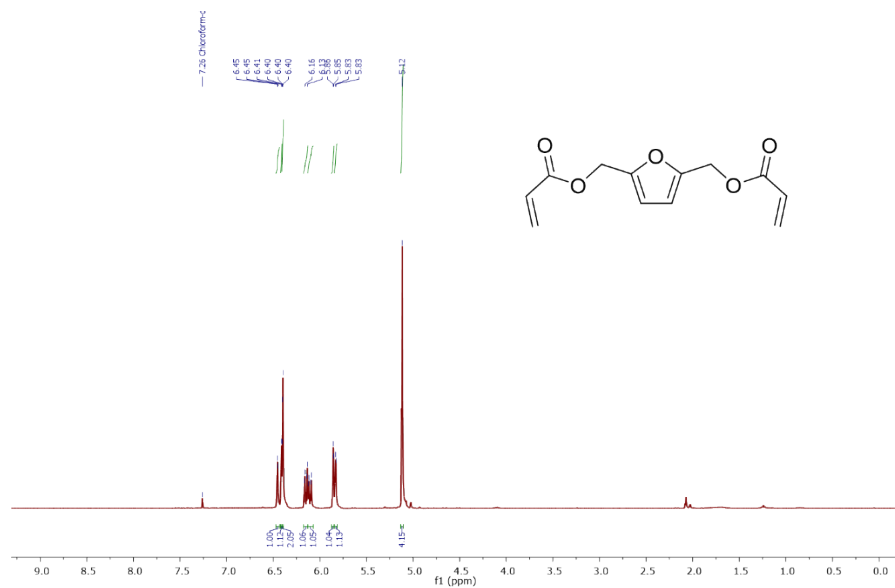
Supporting Information Figure S2A: ¹H NMR of 2,5-Bis(hydroxymethyl)furan (BHMF) in CDCl₃.



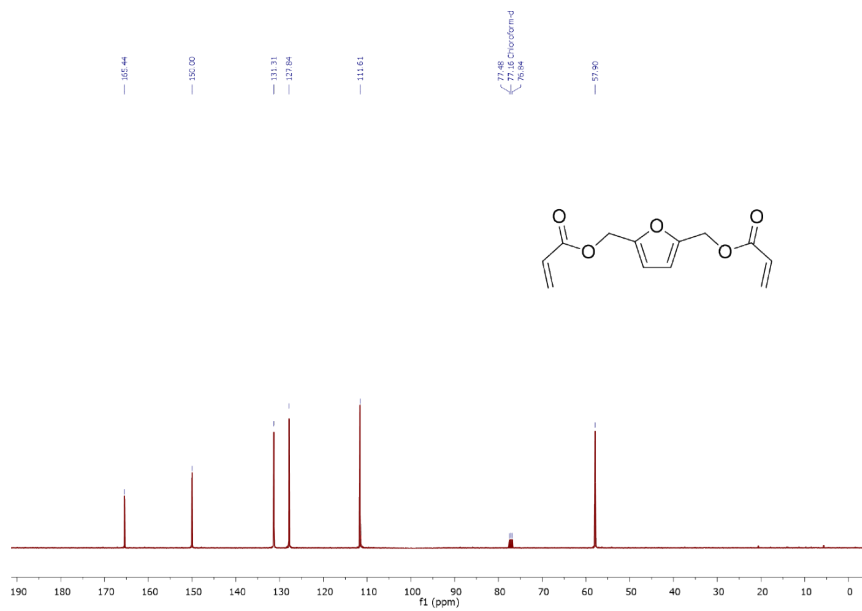
Supporting Information Figure S2A: ^1H NMR of 2,5-Bis(hydroxymethyl)furan (BHMf) in D_2O .



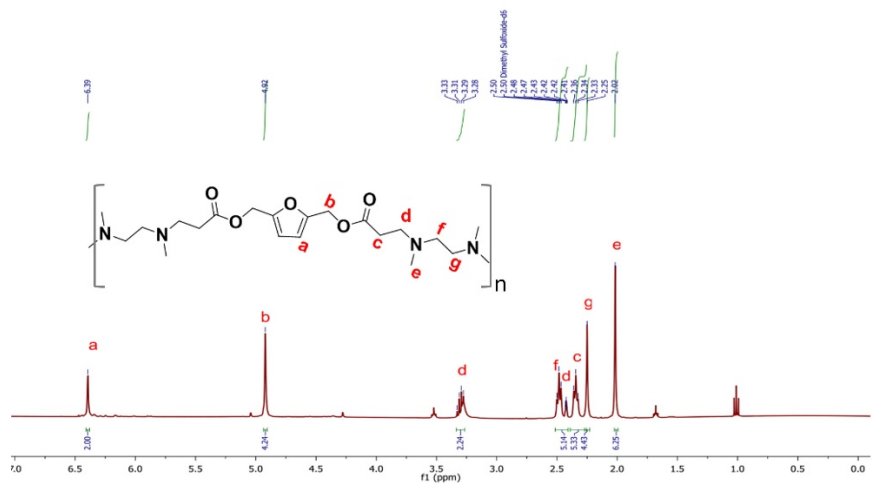
Supporting Information Figure S2A: ^{13}C NMR of 2,5-Bis(hydroxymethyl)furan (BHMf) in D_2O .



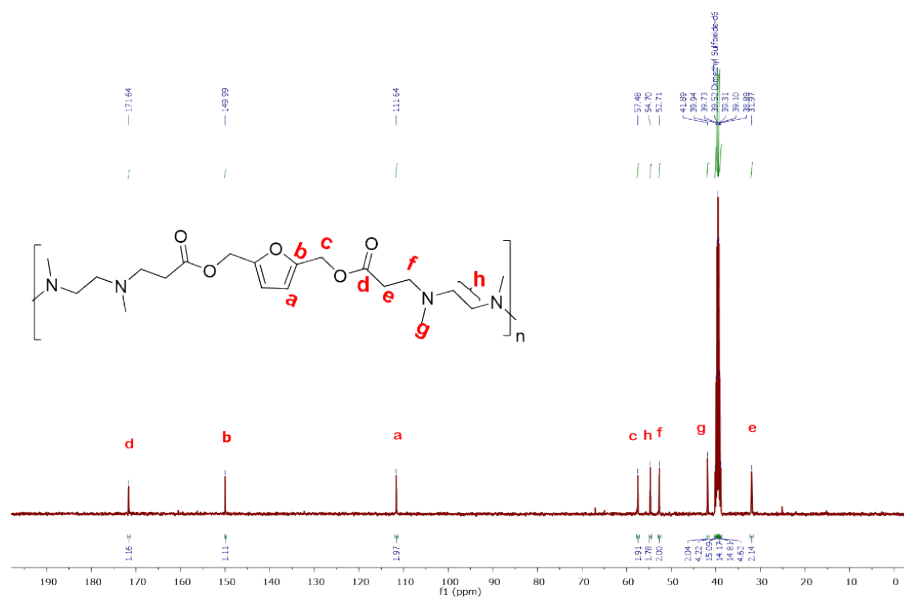
Supporting Information Figure S3: ¹H NMR of 2,5-furan diacrylate (2,5-FDA).



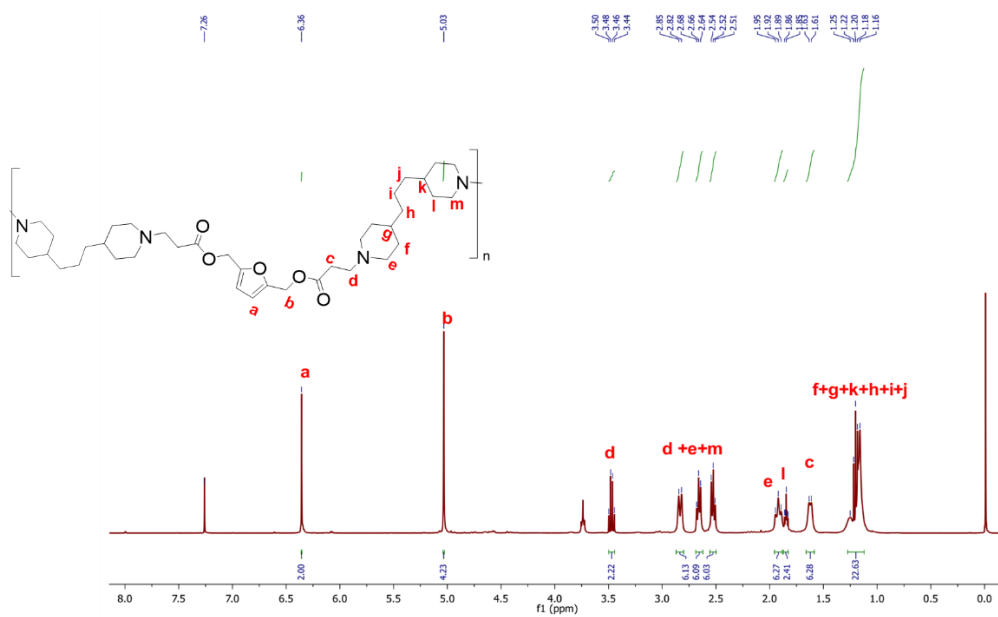
Supporting Information Figure S4: ¹³C NMR of 2,5-furan diacrylate (2,5-FDA).



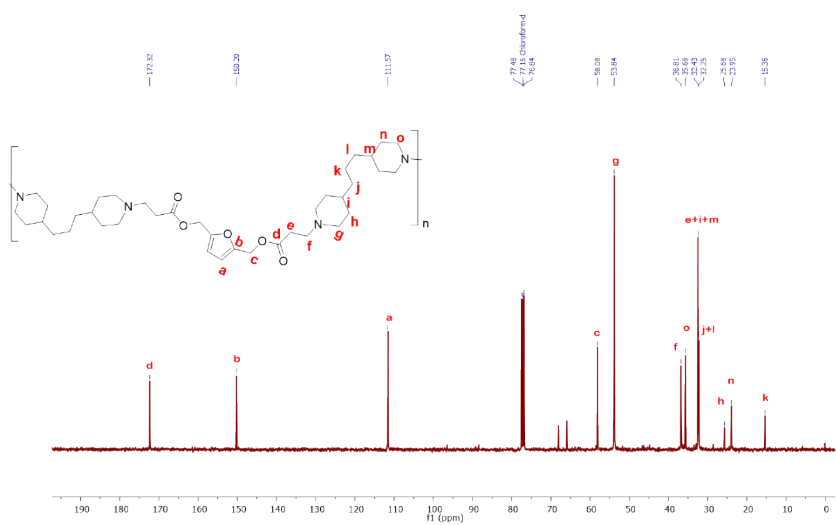
Supporting Information Figure S5: ¹H NMR of pFAST-1



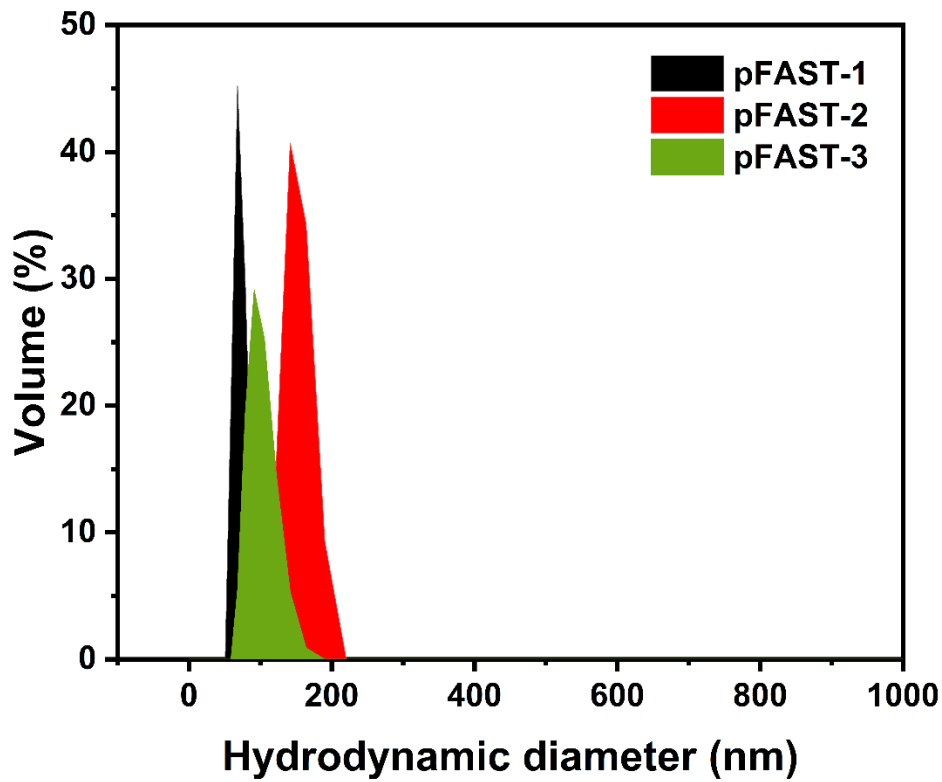
Supporting Information Figure S6: ¹³C NMR of pFAST-1



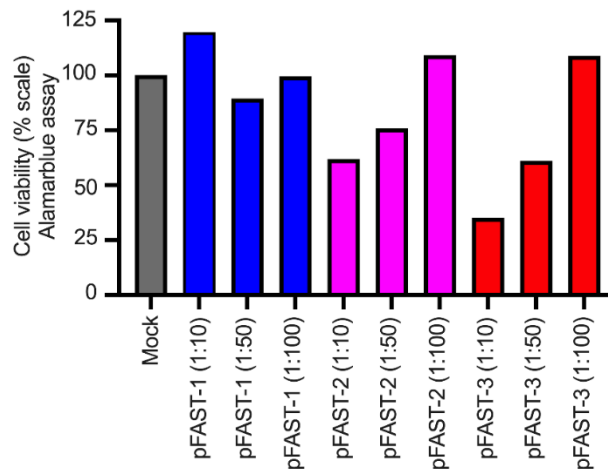
Supporting Information Figure S9: ¹H NMR of pFAST-3



Supporting Information Figure S10: ¹³C NMR of pFAST-3



Supporting information Figure S11: Volume average particle size distribution of different pFAST/pRB



Supporting information Figure S12: Cytotoxicity studies of DNA (gWiz-GFP)/pFAST polyplexes on A549 cells lines at different weight ratios of pFAST-1, 2, and 3.