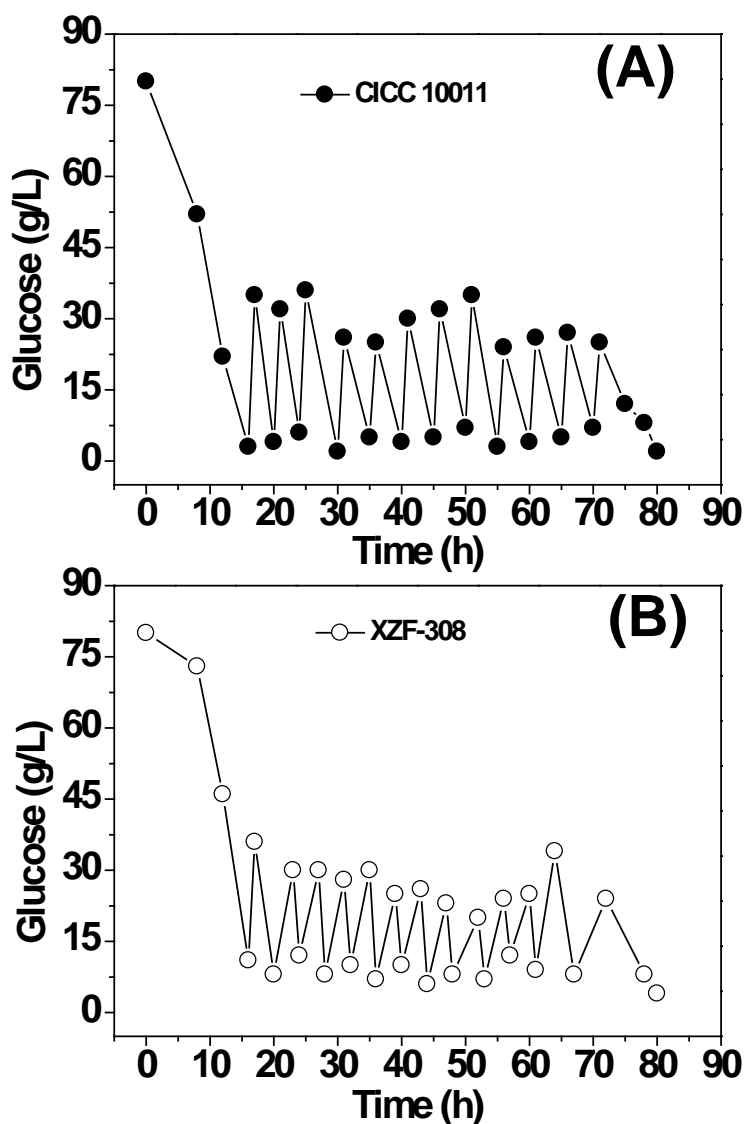


#### Additional file 4-Strategy for feeding glucose during the fed-batch fermentation process

Fed-batch fermentation was conducted by feeding 400 g/L glucose when the residual glucose in the medium was below 10 g/L. Samples were collected periodically to determine the residual glucose concentration, and the rate of feeding glucose was adjusted to keep the glucose concentration at a comparatively low level.



**Figure S4.** Time course of glucose consumption in the fed-batch culture of *Klebsiella pneumoniae*. CICC 10011: the parent strain; XZF-308: the recombinant strain.