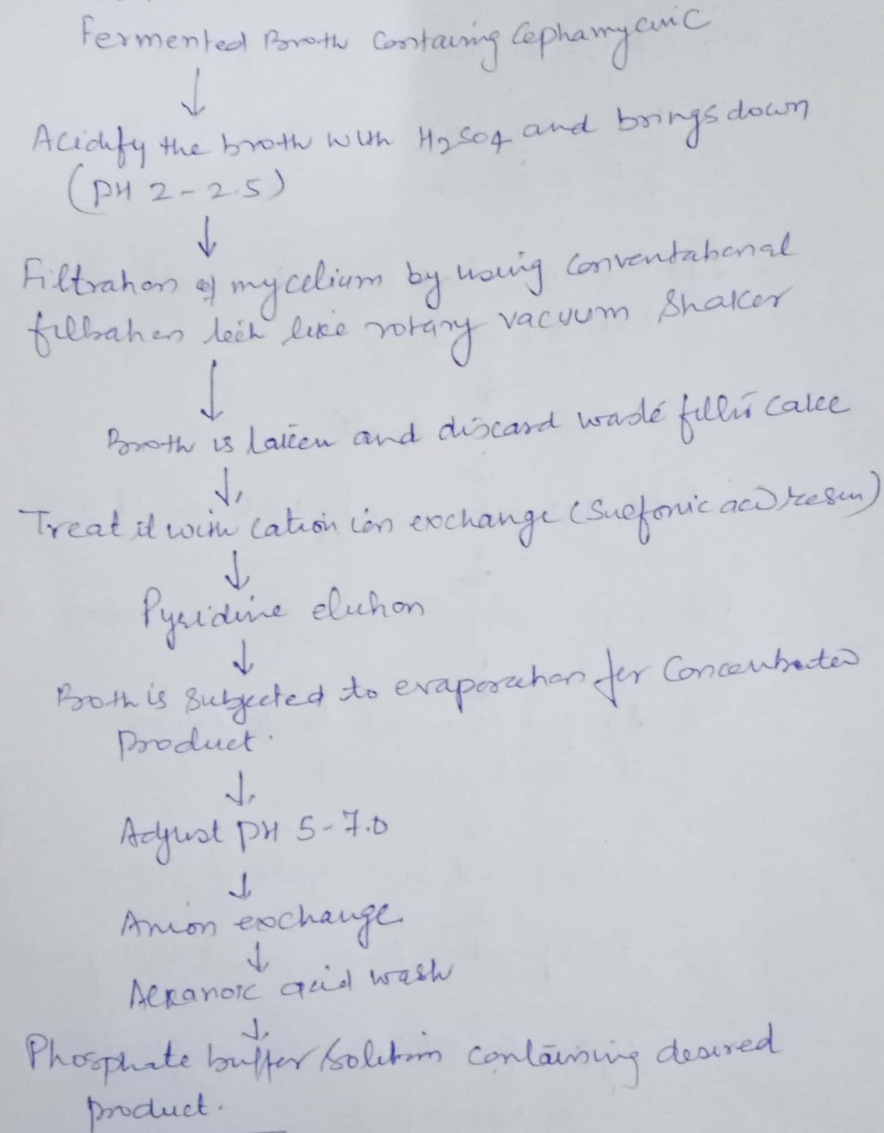


Bioprocess Engineering  
Recovery and Purification of Cephamycin C.

Flow chart:-



## Recovery and Purification of citric acid

Harvest the broth containing citric acid

↓

Filteration by using rotary vacuum filter  
of A. niger (mycelium)

↓

Add  $\text{CaCO}_3$  (Soda lime) to filtrate to  
adjust pH 5.8

↓

Calcium citrate

↓

Add  $\text{H}_2\text{SO}_4$  to acidify the broth at  $60^\circ\text{C}$

↓

Filter on rotary vacuum filter to recover  $\text{CaSO}_4$ .

↓

Activated charcoal to decolorize  
(it will absorb colour)

↓

Cation and anion exchange resin

↓

Evaporation to the point of crystallization

↓

Crystal of ~~citric~~ Citric monohydrate separated  
in centrifuge.

↓

Dries at  $50-60^\circ\text{C}$