

:

hganji@modares.ac.ir :

/ / :

/ / :

() ABS :

(PBM)
R2A

(TSI)

(MacConkey agar)
SIM (SS agar)

(O-F glucose)
(EMB)

% % :

% / %
% %

(Proteobacteria)

(Pseudomonas putida)
:

ABS

:

Bigey) (Watanabe et al. 1987)

(et al. 1999; Kobayashi et al. 1992

(Wang et al.

(Wyatt and Knowles 1995) 2004)

(ABS)

(Deshkar et al. 2003)

.(Chang et al. 2006)

Wyatt and) (Deshkar et al. 2003)

ABS

(Knowles 1995; Wang et al. 2004

(Roach et al. 2004)

(USEPA)

- : .(Leeuwen and Krzyzanowski 2000)

Li et al.)

/

(2007

- (Anoxic) Chekhovskaya 1980; Diane and)

(Acidovorax facilis B)

.(Speece 1991

(Wang et al. 2001) (*Pseudomonas nautica*)

ABS

ABS

.(Chang et al. 2006)

.(Wang et al. 2001) AAS6

ABS

.(Hu et al. 1998)

(PBM)

(/)

(/) (/)

(/)

(/)

)

() (

() Na₂MoO₄ () ()

()

pH

ABS

pH

White)

(et al. 1988; Nawaz et al. 1991

- ()

/

(OD) pH

(

pH OD

Microsoft Excel

Reasoner and) (R2A)

(Geldreich 1995

%

R2A

(Merck-1.00416) R2A

yeast)

%

(/)

(/) (extract

(Forbes et al. 2007)

(/)

(/)

(/)

(/)

(/)

()

(/)

SIM (Merck-1.05470)

(O-F

(MacConkey agar-

glucose)

Merck-1.05465)

(TSI- Merck-1.03915)

PBM

(EMB- Merck-1.01347)

(SS agar- Merck-7667)

(Merck-1.04070)

TSI) PBM (

(Proteobacteria)

(Pseudomonas putida) pH OD₆₀₀ pH

.(Forbes et al. 2007) (Pharmacia-LKB-Novaspec II)

:

/

pH FID (Varian CP 3800)

Capillary Column: CP- WAX)

(52 CB 25m×0.32mm×1.2μm

(Cole Parmer)

P. putida

% % :

OD₆₀₀

pH / / / pH

pH

Li .

% /
% /

%

(Li et al. 2007)

Wang AAS6

/

OD₆₀₀

/

/

(Wang et al. 2001)

/

/

pH

P. putida

P. putida

-

%

% % %

OD₆₀₀

P. putida

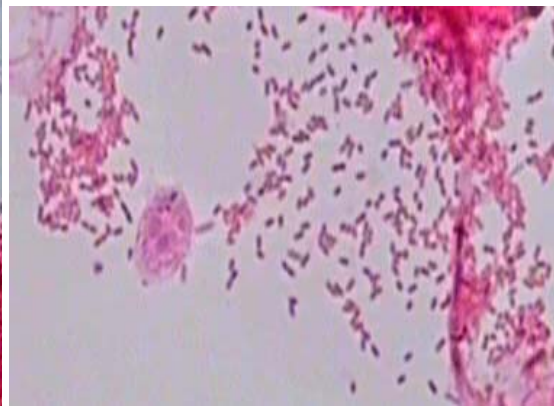
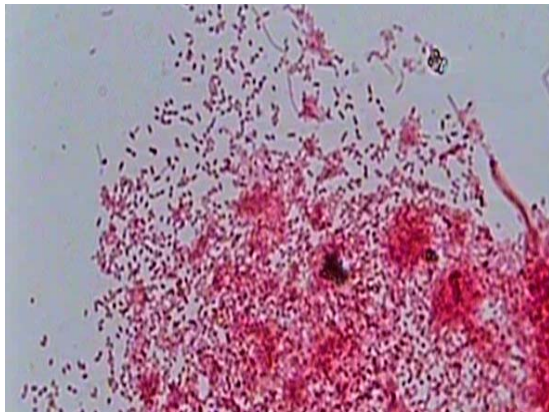
() Li pH

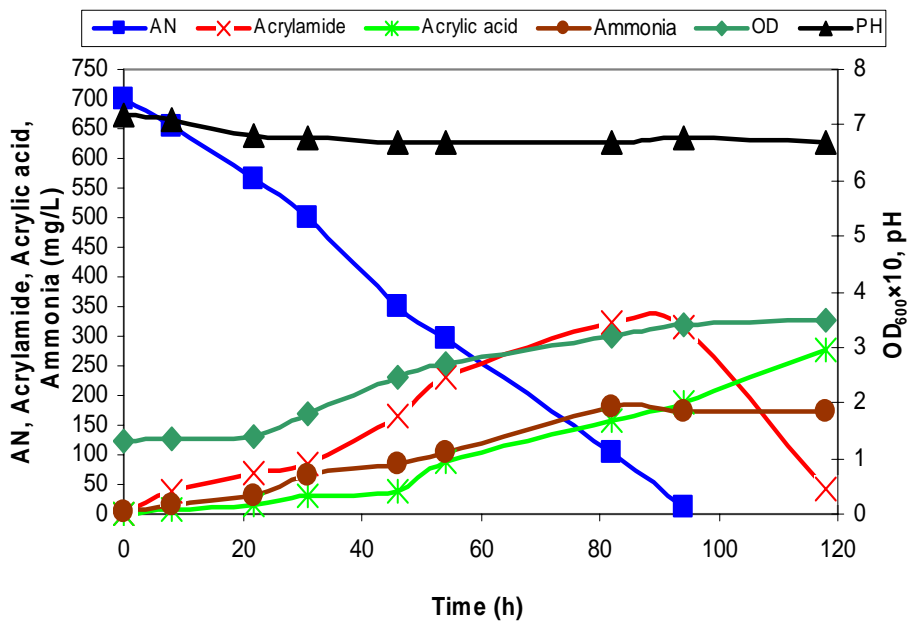
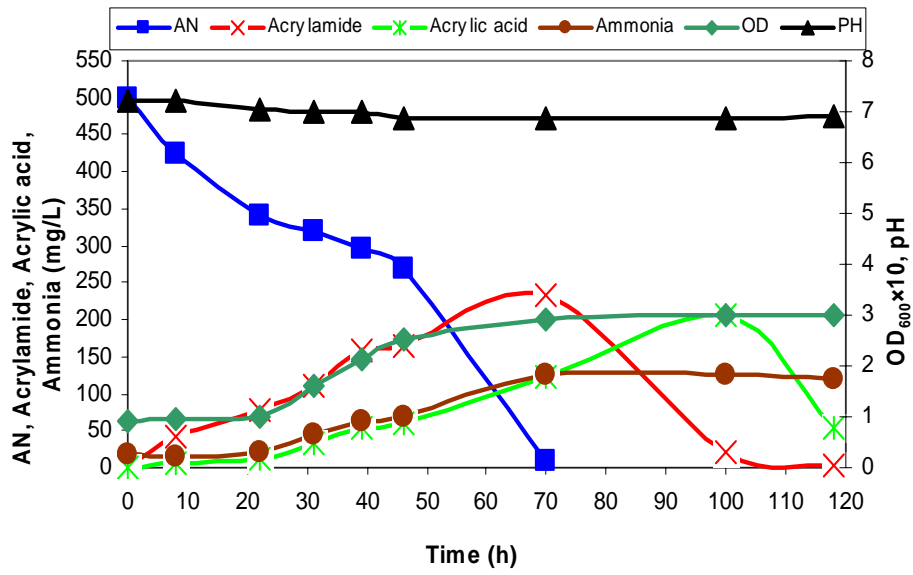
P. putida

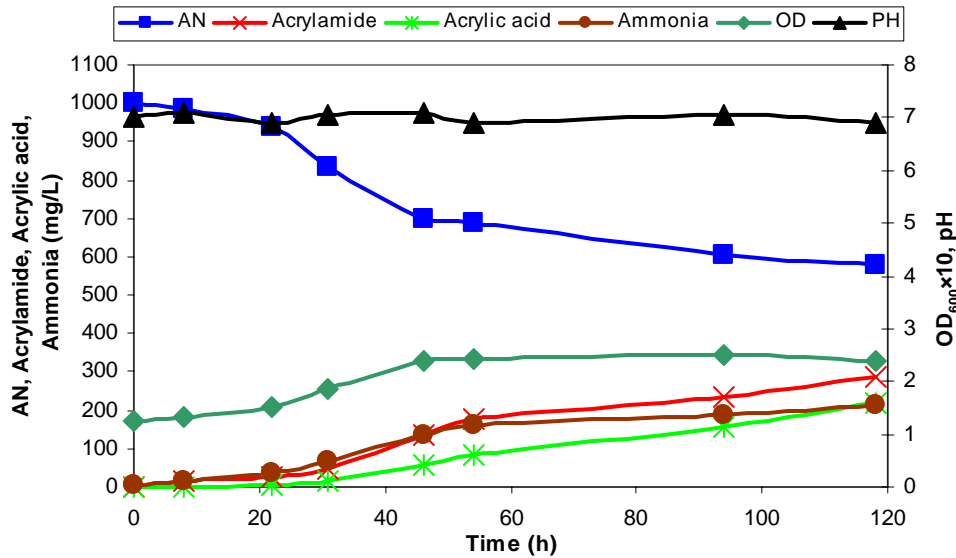
() (Li et al. 2007) Li

()

(Wang et al. 2004; Shanker et al. 1990)







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