

# Digestate processing cascades for SYSTEMIC project Nutrient Recovery and Reuse (NRR) tool

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SYSTEMIC plants can download the tool after login: [www.systemicproject.eu/living-labs](http://www.systemicproject.eu/living-labs)

SYSTEMIC project website: [www.systemicproject.eu](http://www.systemicproject.eu)

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## 1 Overview table cascades for nutrient recovery and reuse

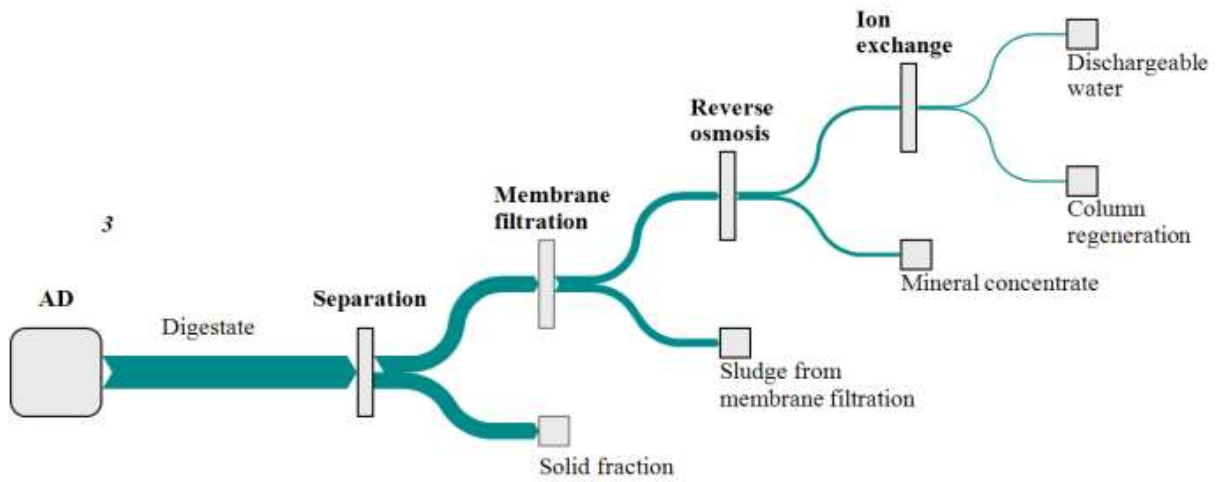
End product	Possible cascades									
Dischargeable water	C3	C4	C5	C6						
Calcium carbonate	C7	C8	C9							
Ammonium water	C10	C11	C21							
Ammonium sulphate	C7	C8	C9	C12	C13	C14				
Phosphorus salts	C15	C17								
Dried phosphorus salts	C16	C18								
Mineral concentrates	C3	C4	C5	C6						
Phosphorus poor products	C15	C17	C16	C18						
Dried products	C19	C20	C21							
Solid fraction	C1	C2								
Liquid fraction	C1	C19								
Liquid fraction from DAF	C2	C20								
Nitrogen poor products	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14

## 2 NRR cascades diagrams per end product

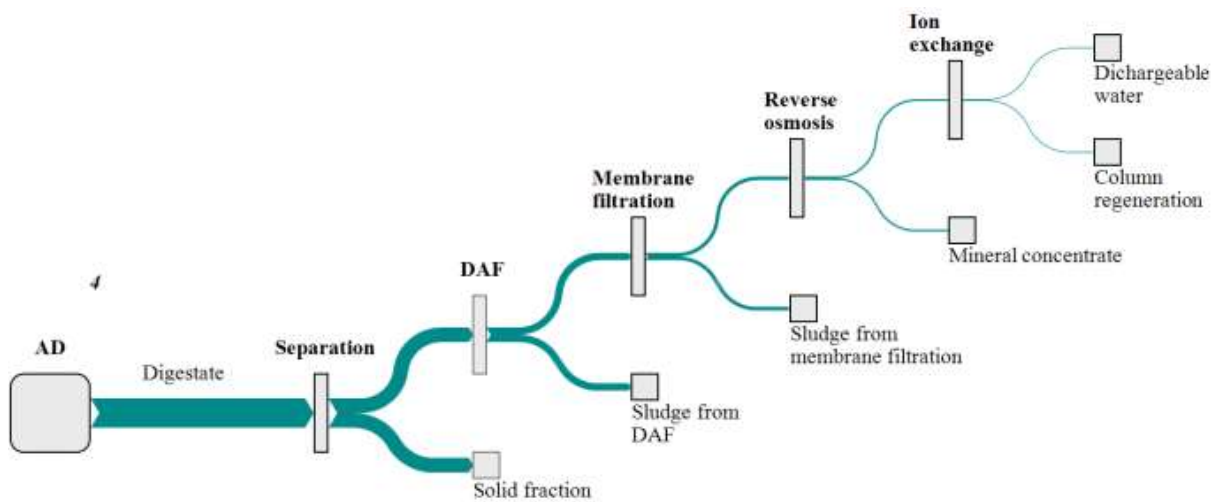
Cascades per product category in this section are presented in the order from simple to more complex cascades to obtain that specific end product. A cascade can deliver more than one end product that could potentially be of interest. One specific end product can often be made by several cascades.

## 2.1 Dischargeable water

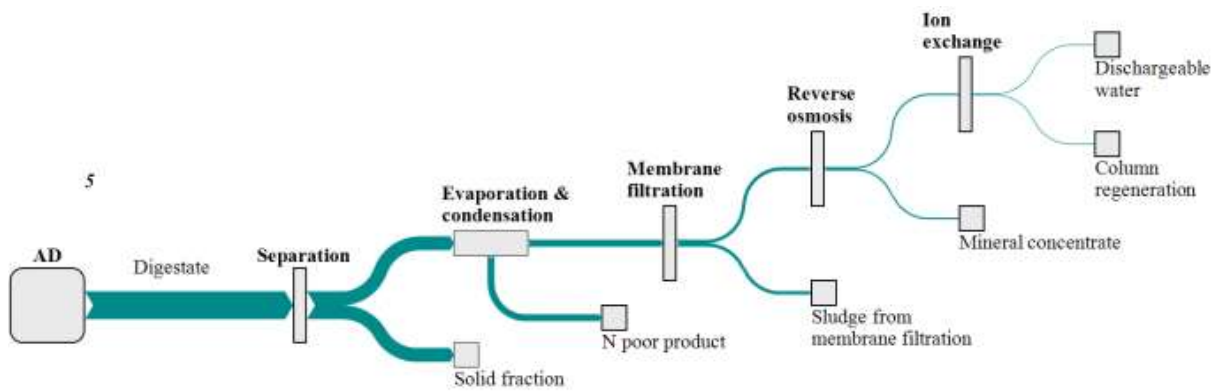
C3



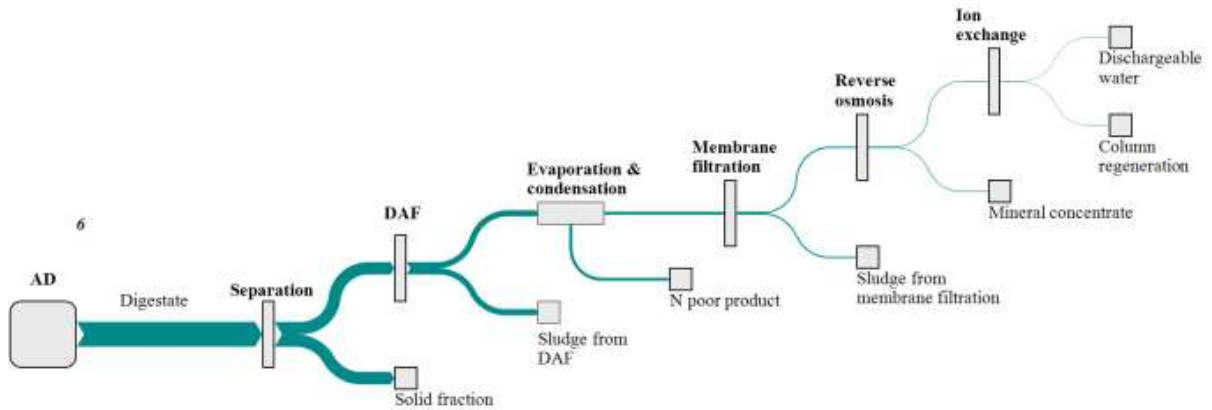
C4



C5



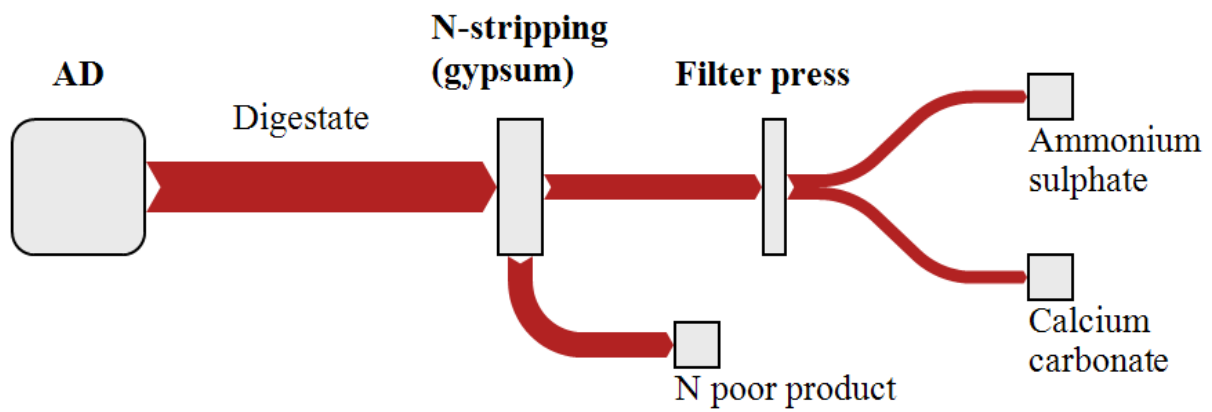
C6



## 2.2 Calcium carbonate

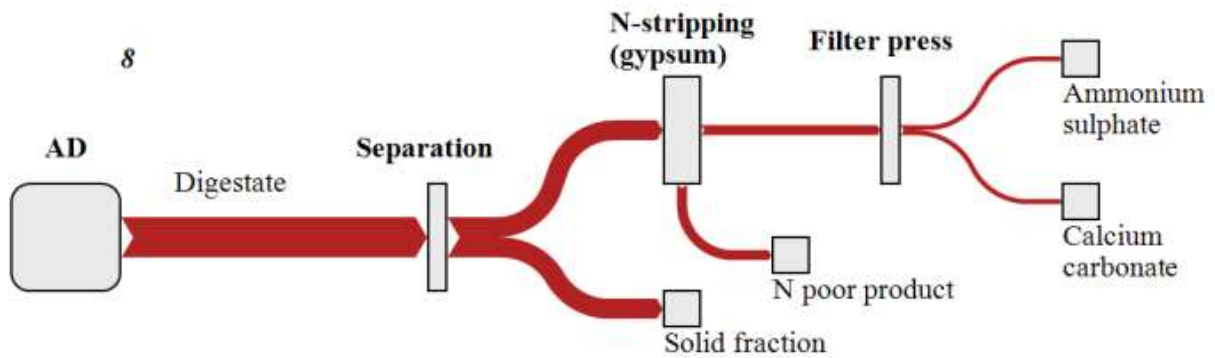
C7

7

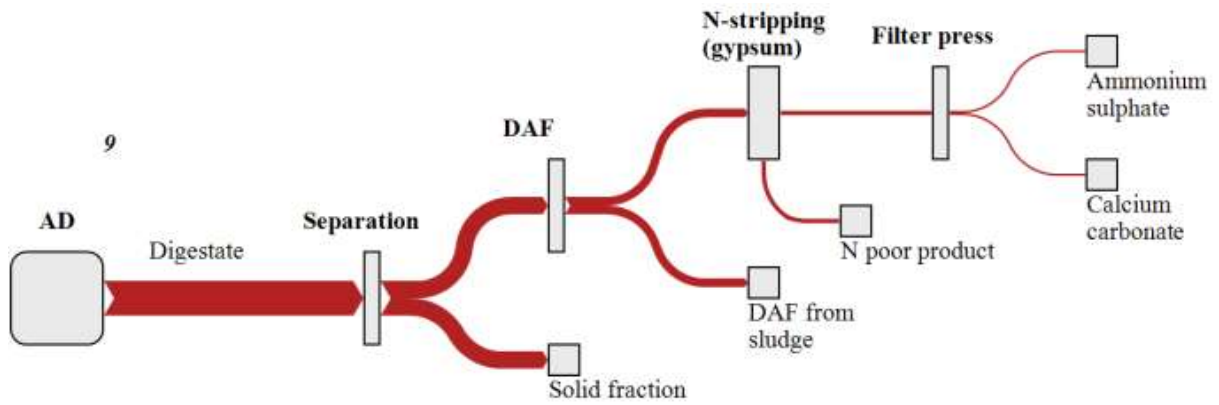


C8

8

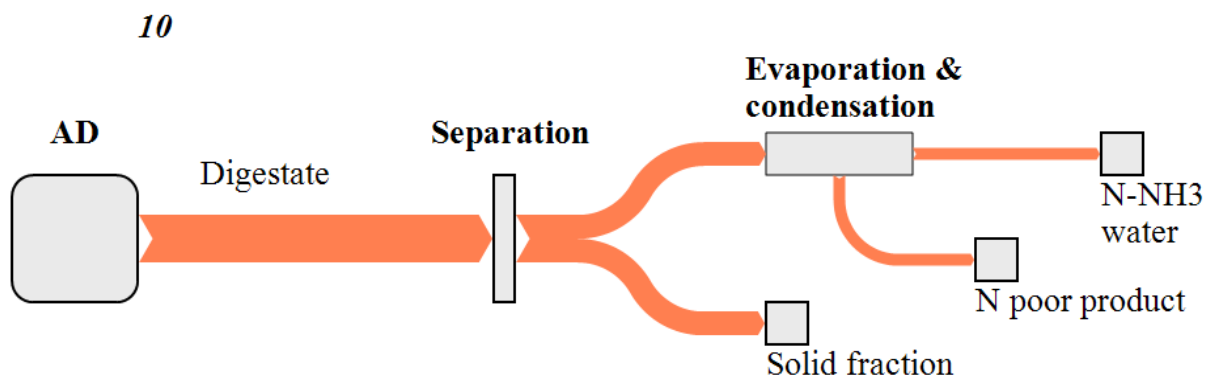


**C9**

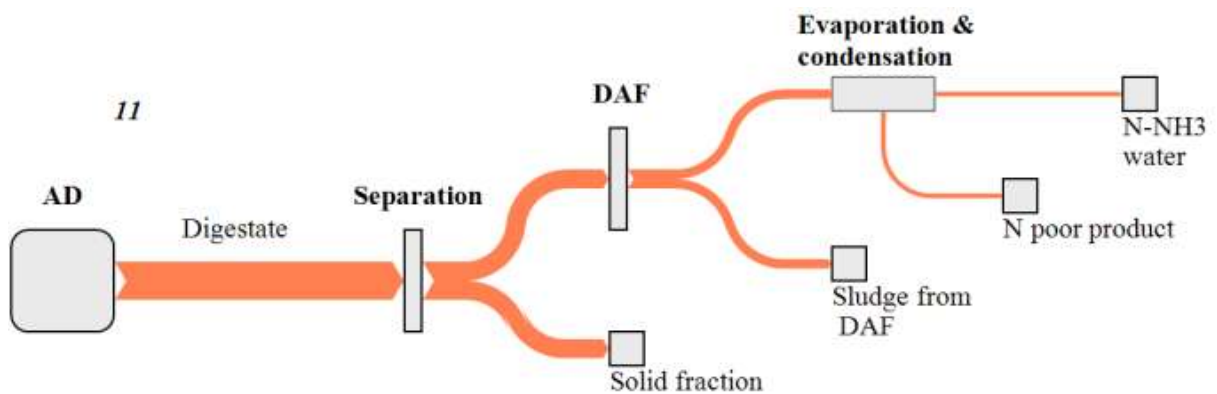


### 2.3 Ammonium water

**C10**

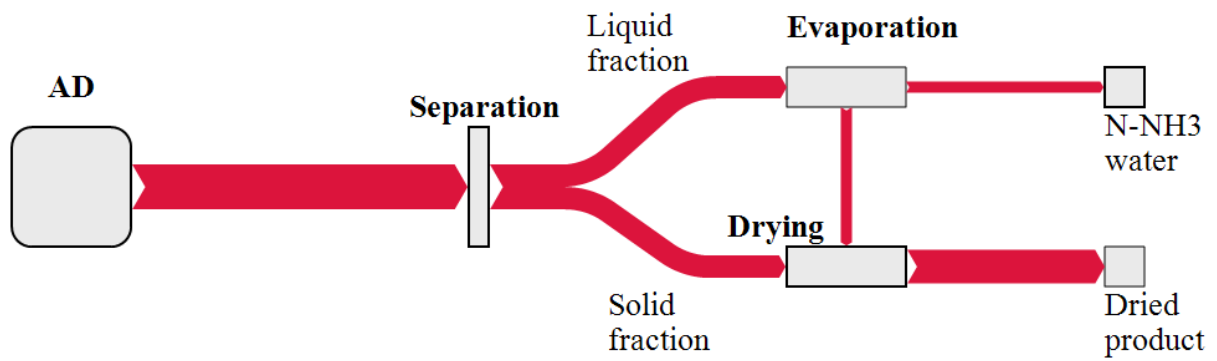


**C11**



**C21**

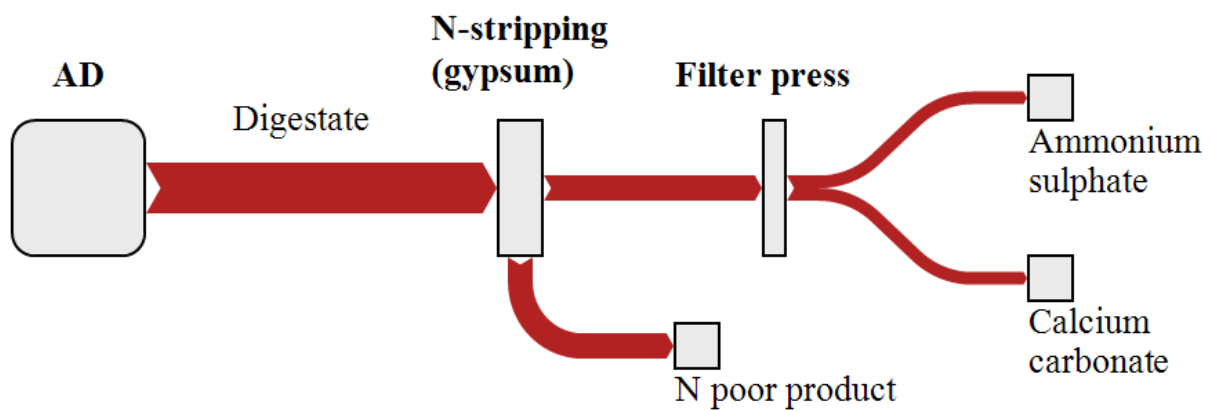
21



**2.4 Ammonium sulphate**

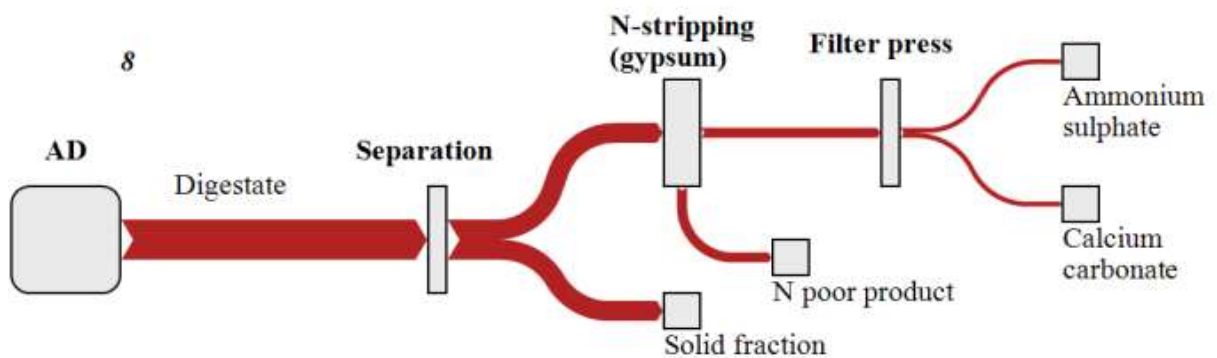
**C7**

7

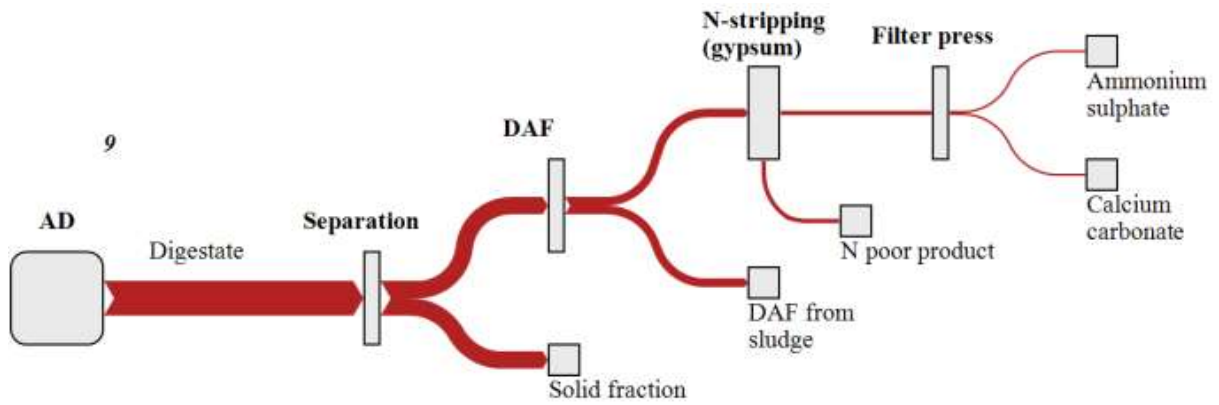


**C8**

8

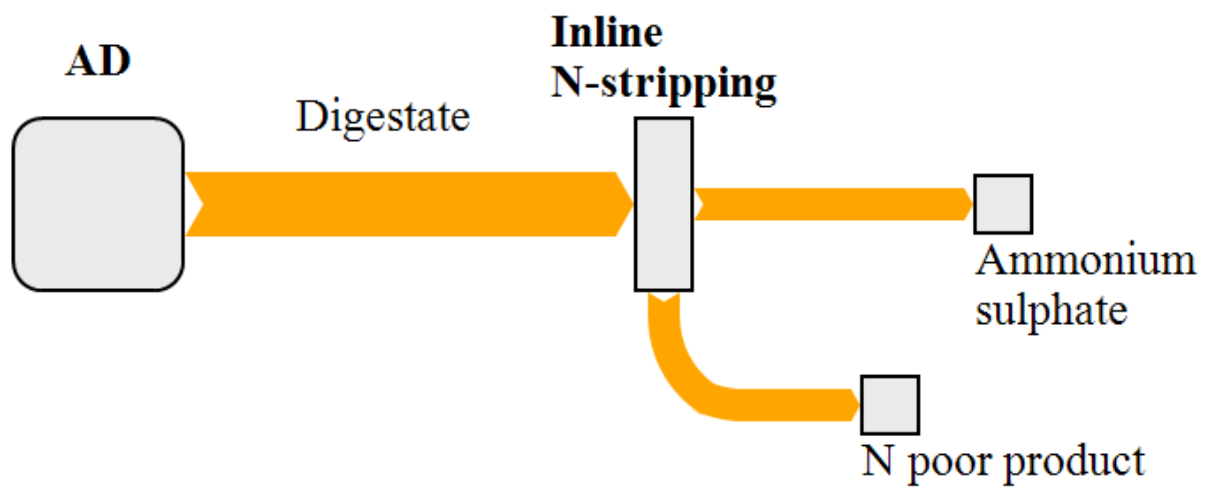


C9



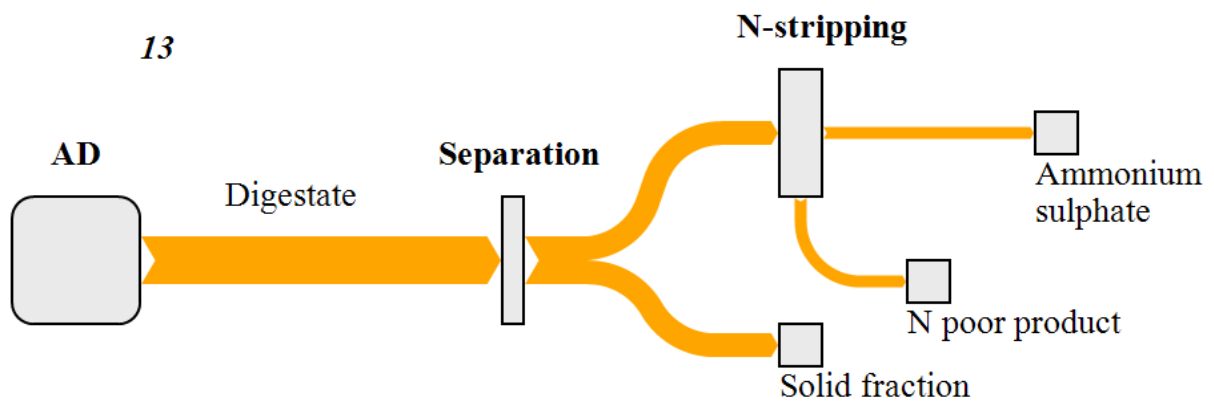
C12

12

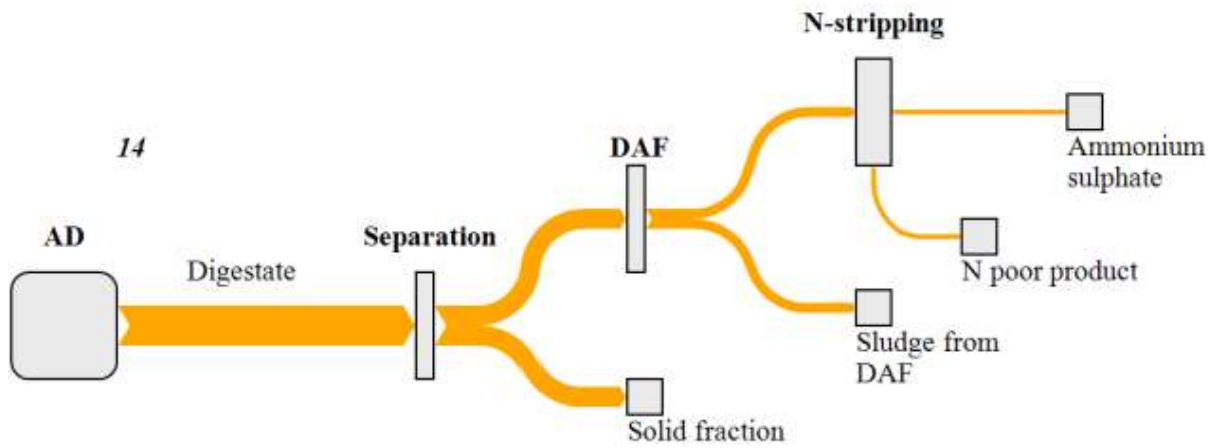


C13

13

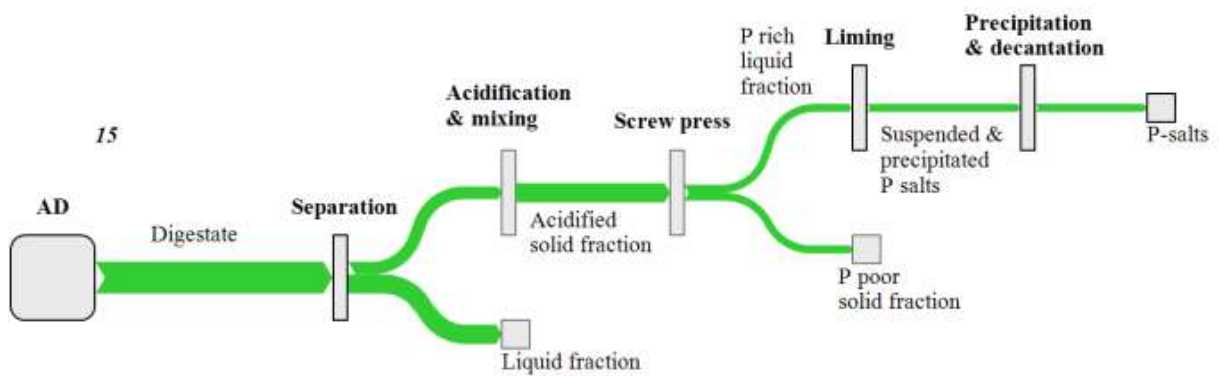


**C14**

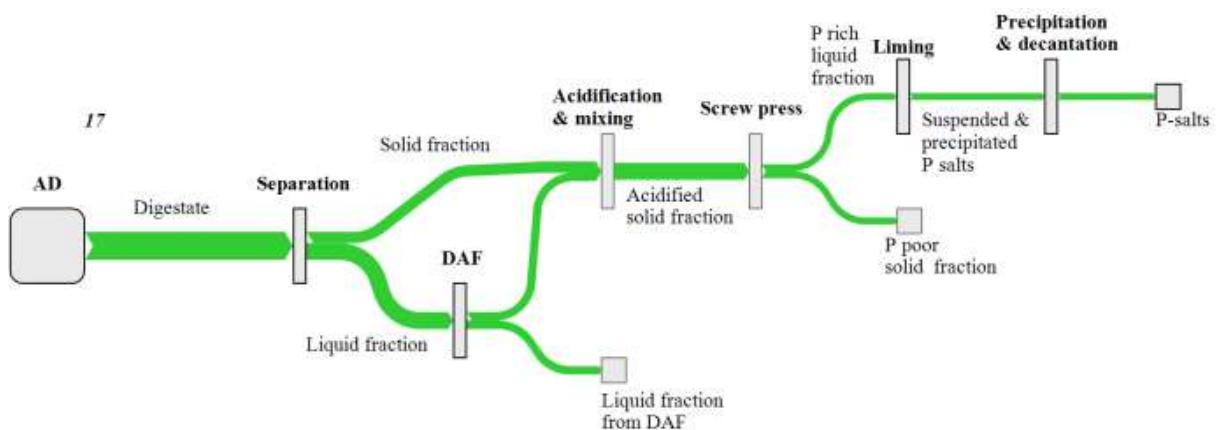


## 2.5 Phosphorus salts

**C15**



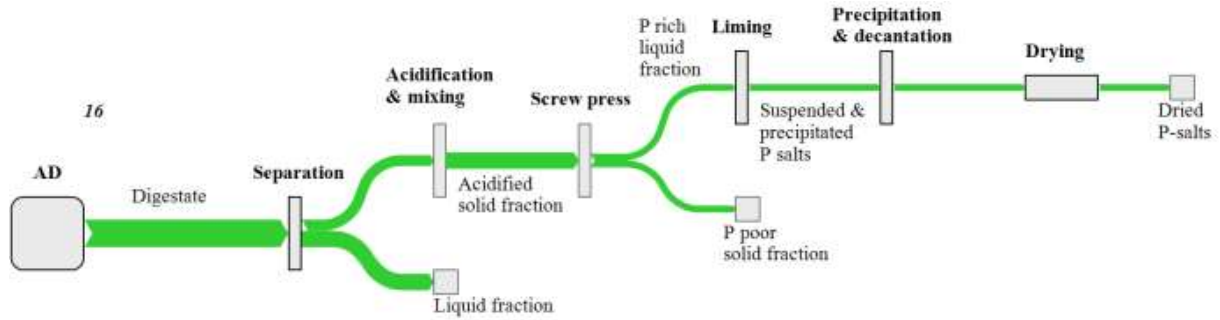
**C17**



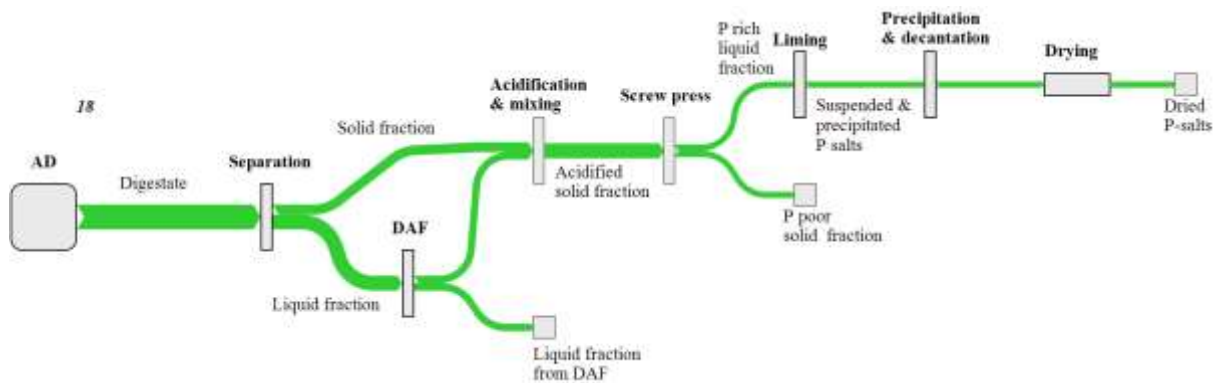


## 2.6 Dried phosphorus salts

C16

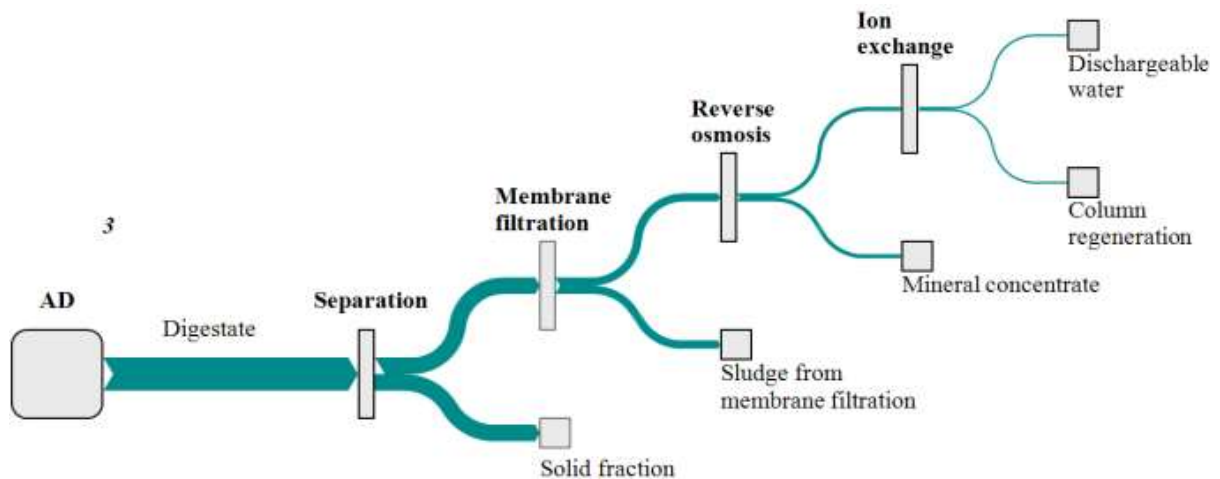


C18

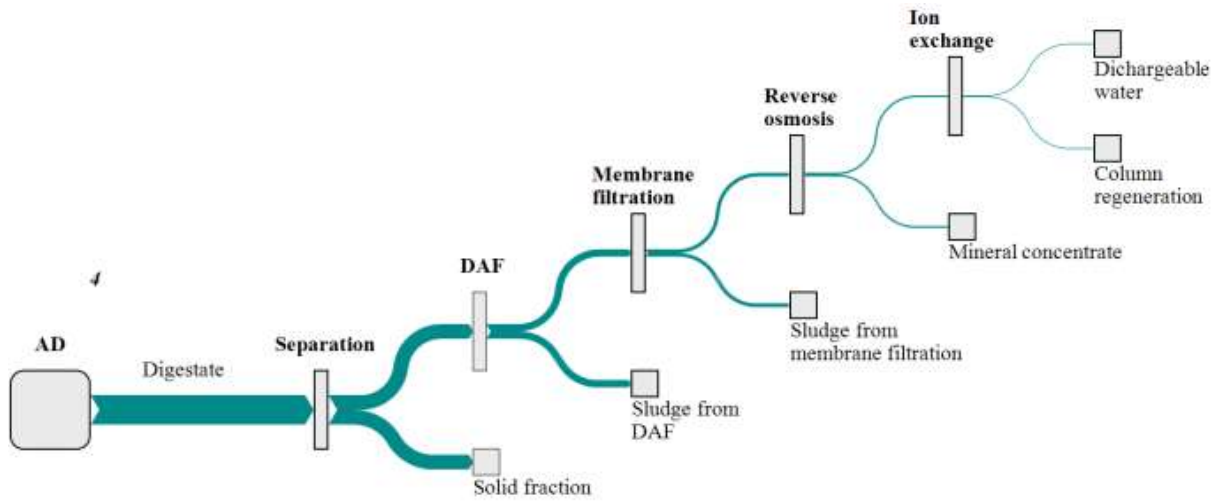


## 2.7 Mineral concentrates

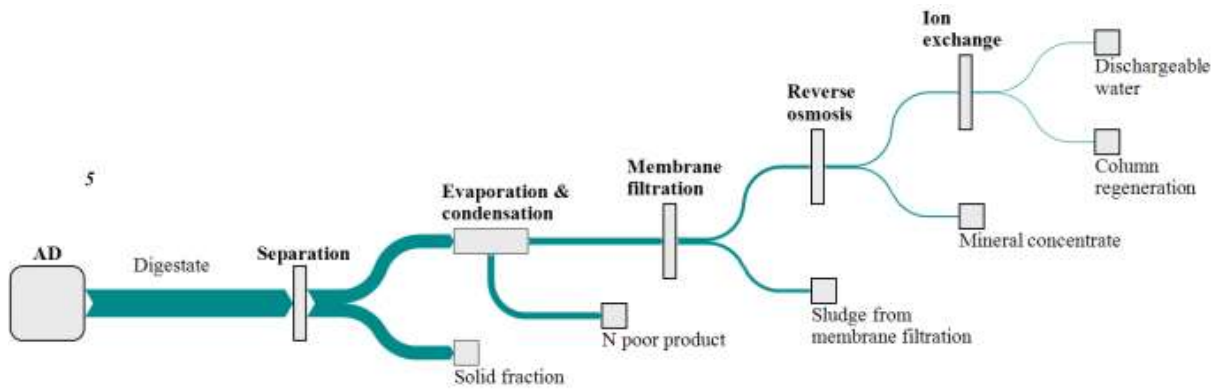
C3



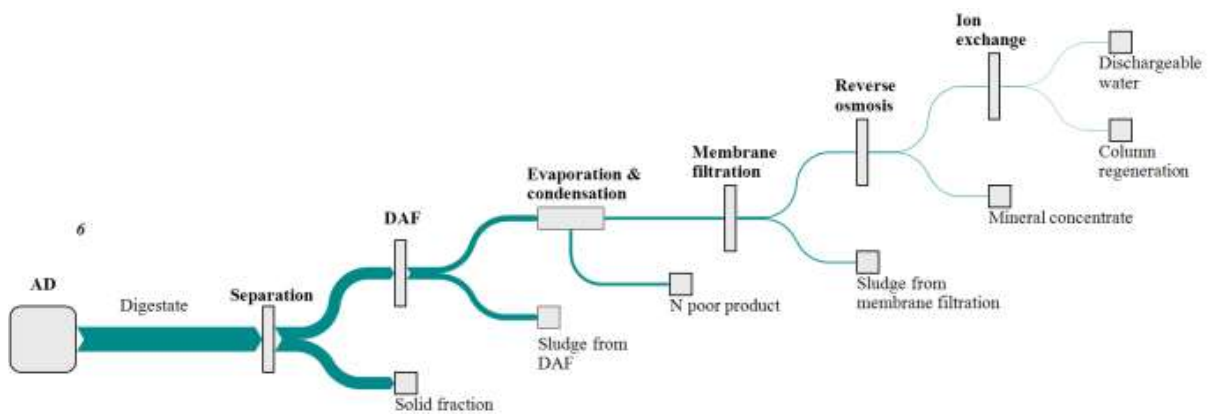
### C4



### C5

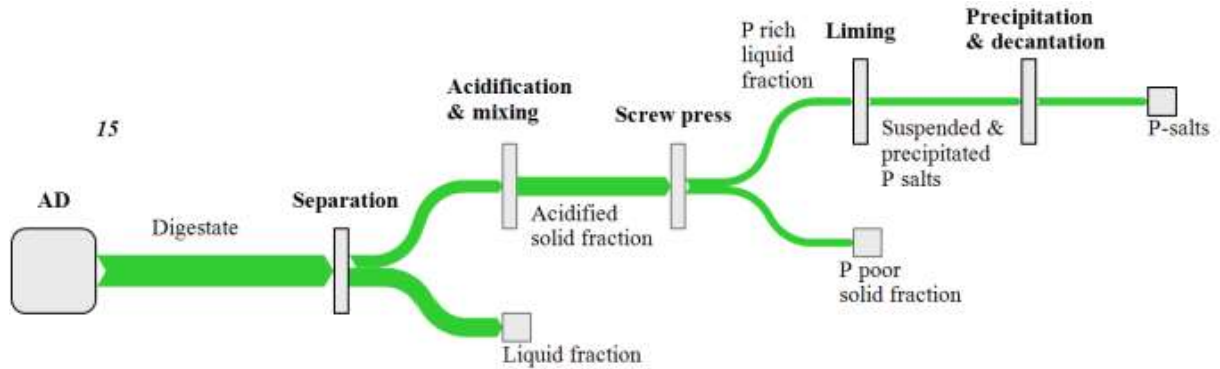


### C6

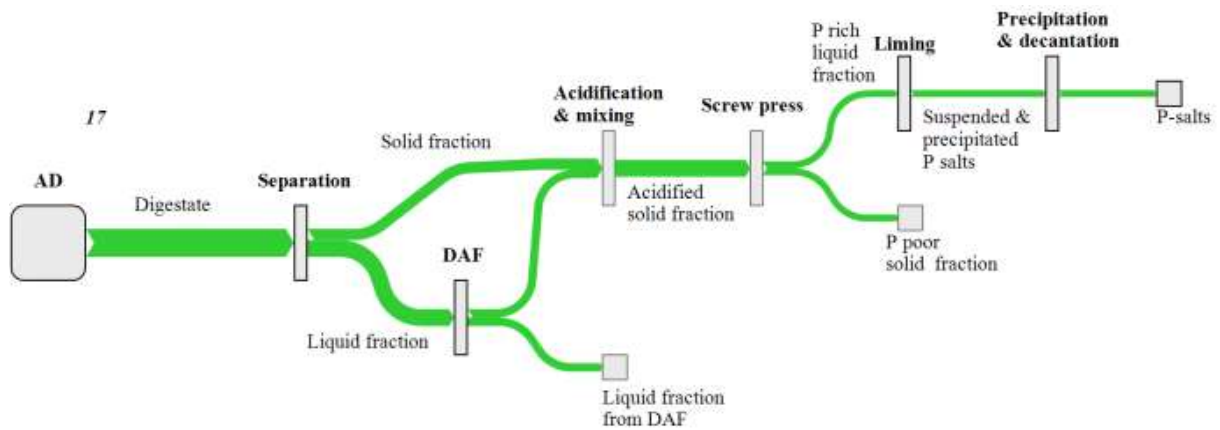


## 2.8 Phosphorus poor products

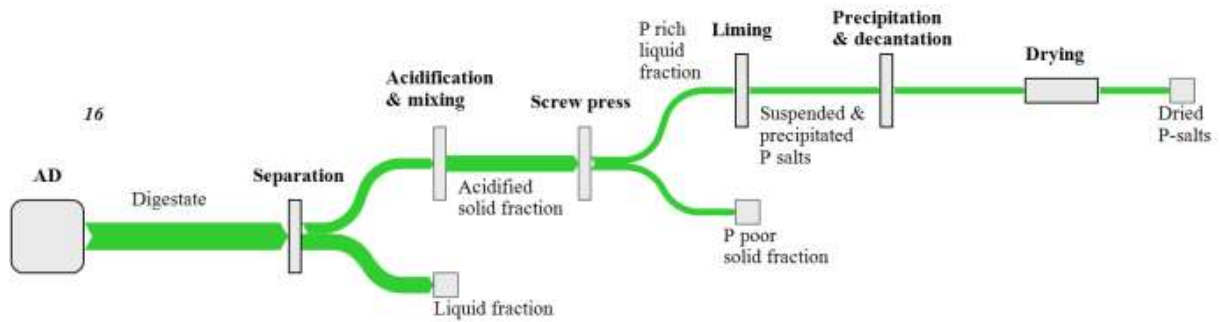
**C15**



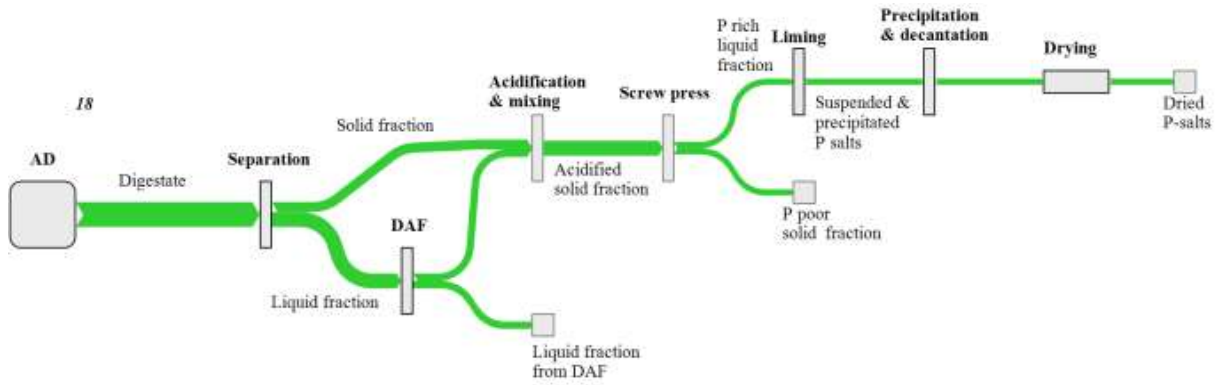
**C17**



**C16**



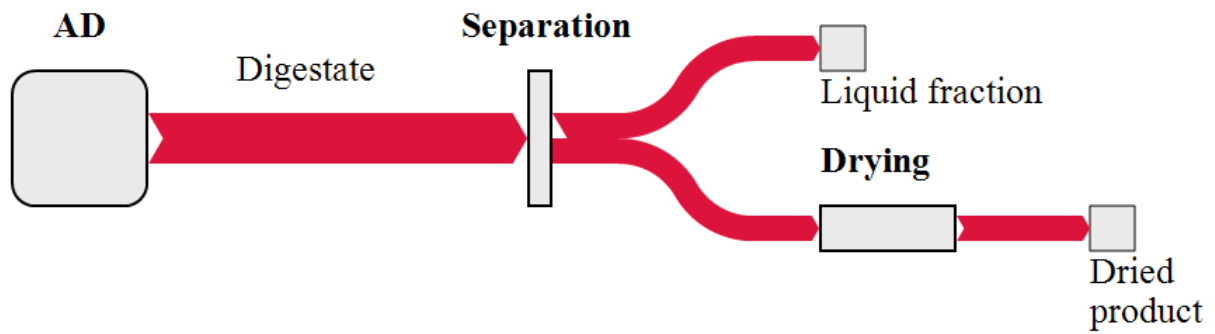
**C18**



**2.9 Dried products**

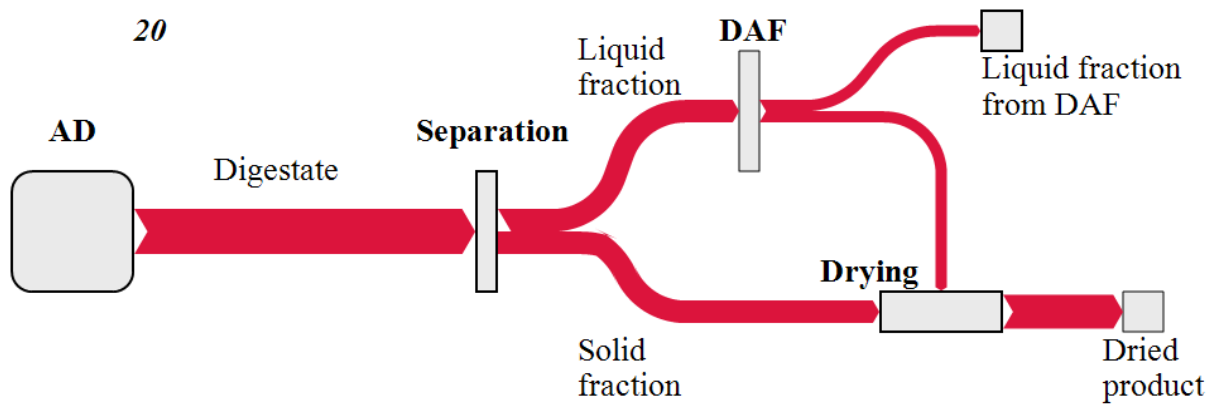
**C19**

19



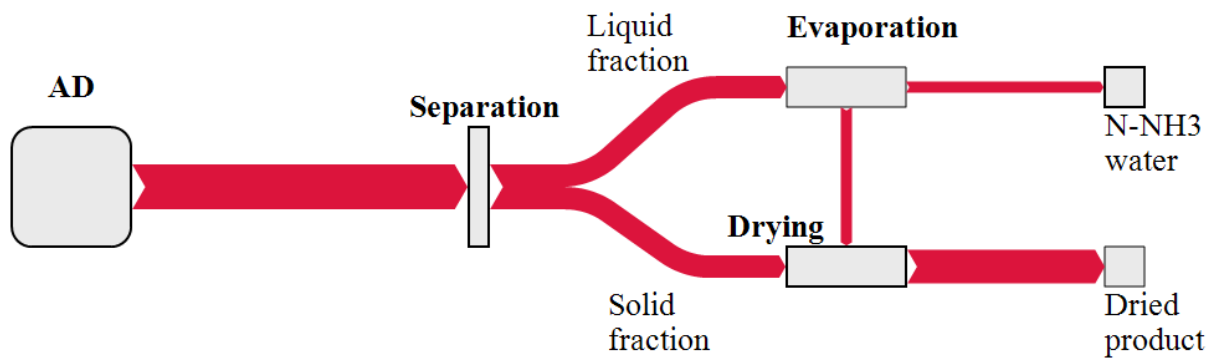
**C20**

20



**C21**

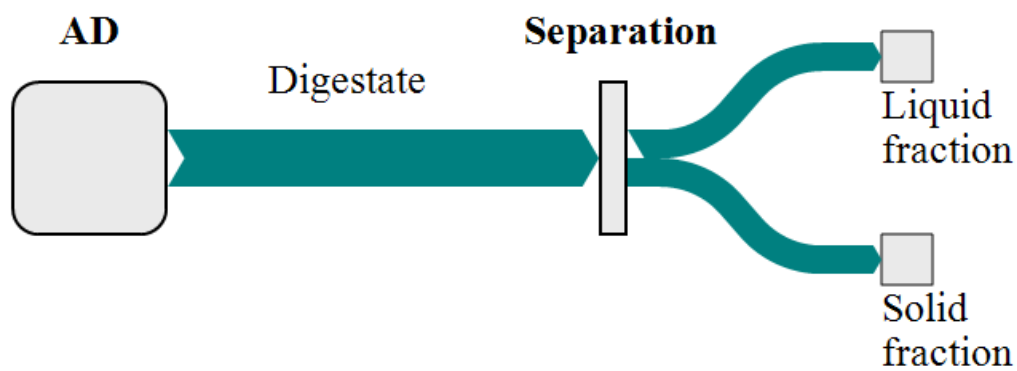
21



**2.10 Solid fraction**

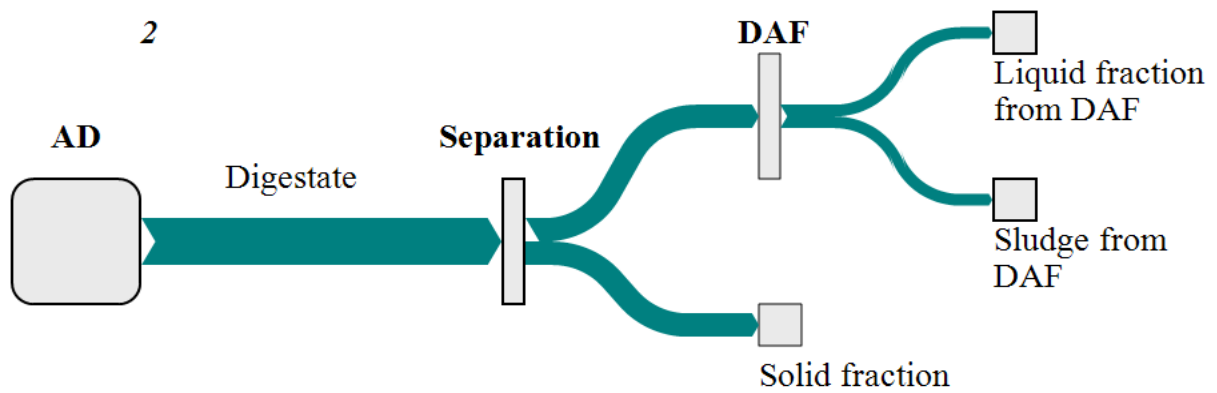
**C1**

1



**C2**

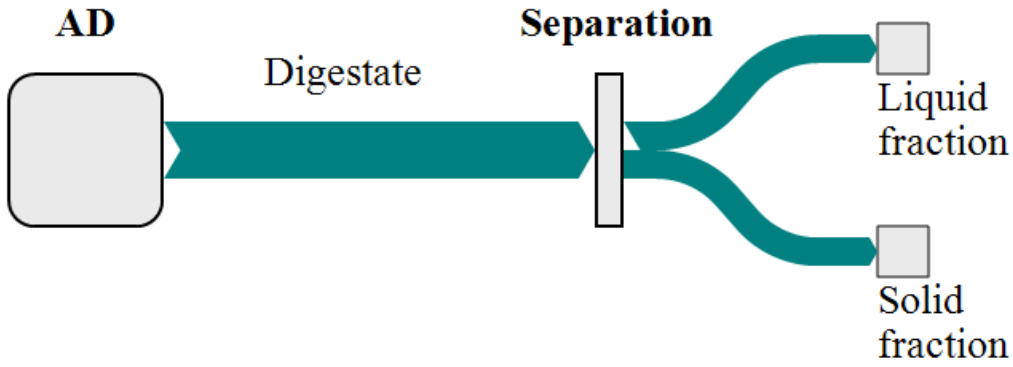
2



## 2.11 Liquid fraction

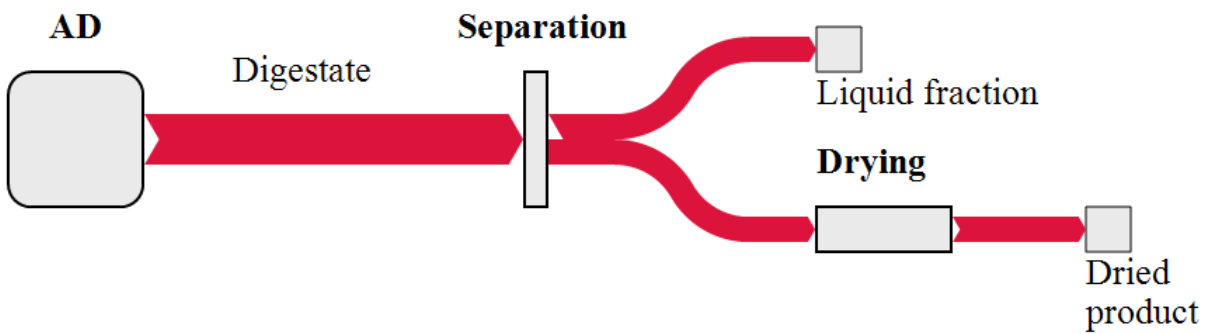
C1

1



C19

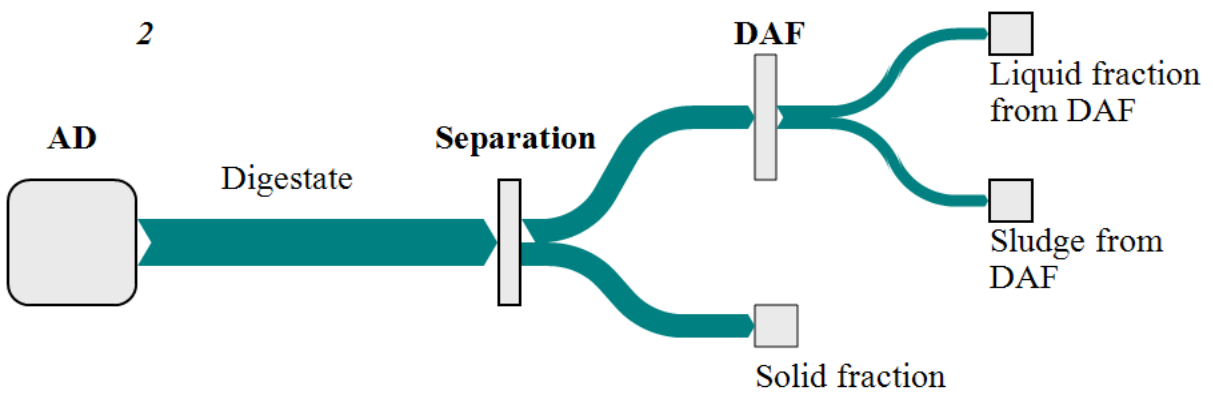
19



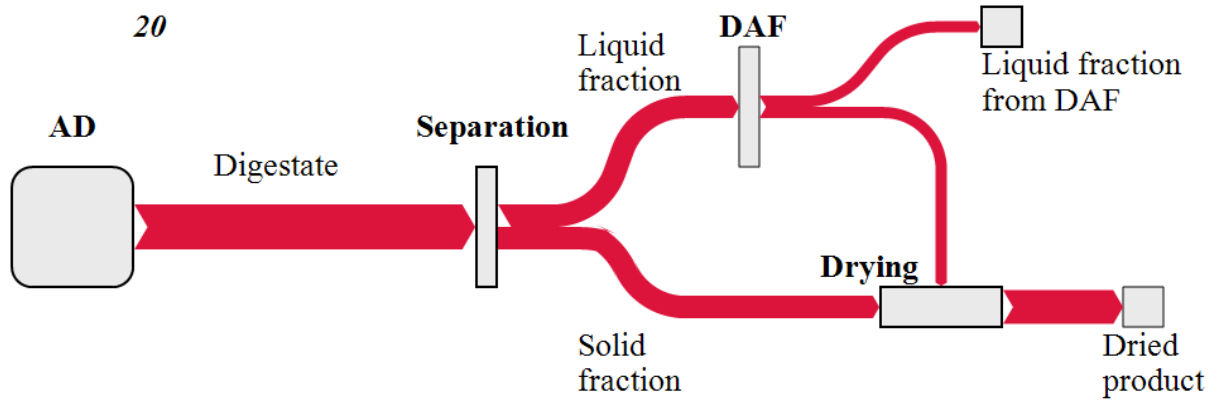
## 2.12 Liquid fraction from DAF

C2

2

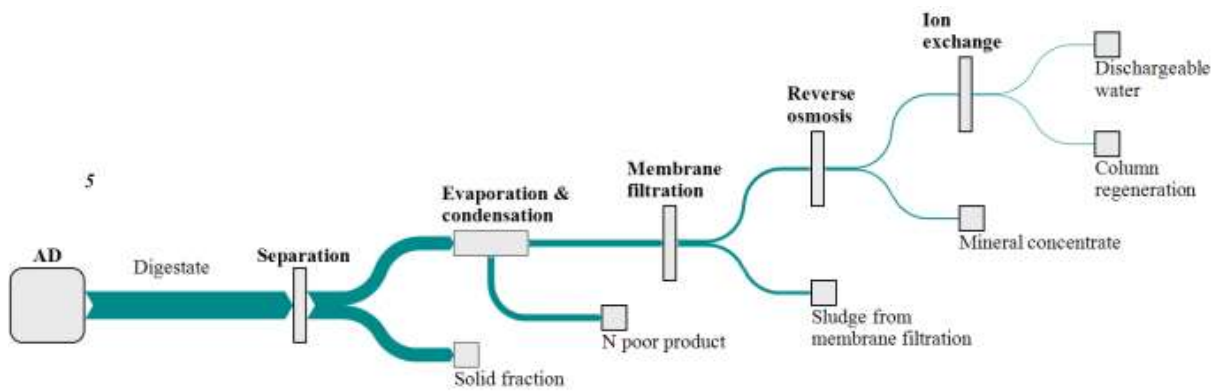


C20

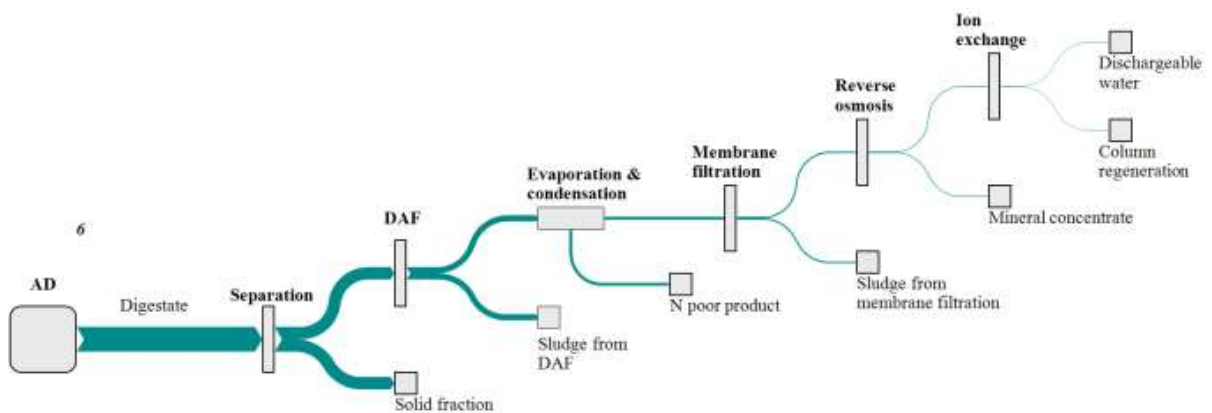


### 2.13 Nitrogen poor products

C5

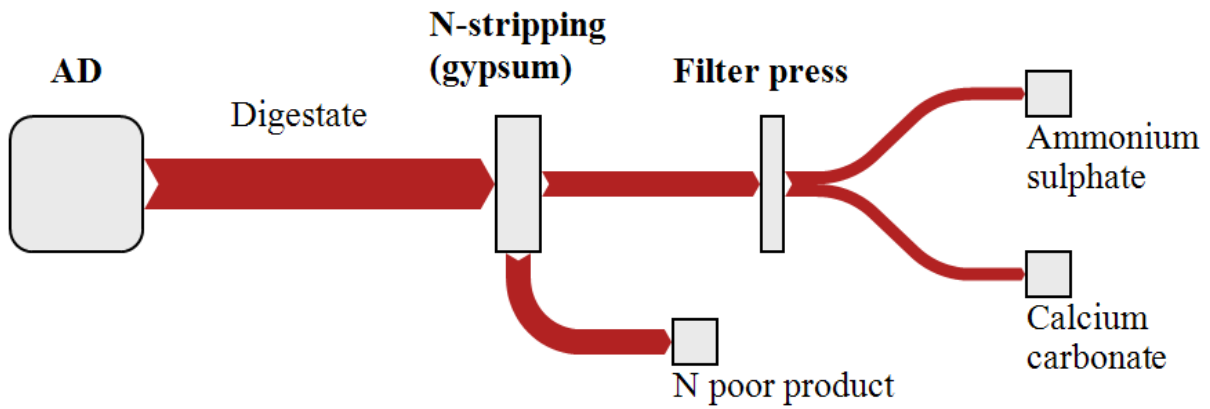


C6



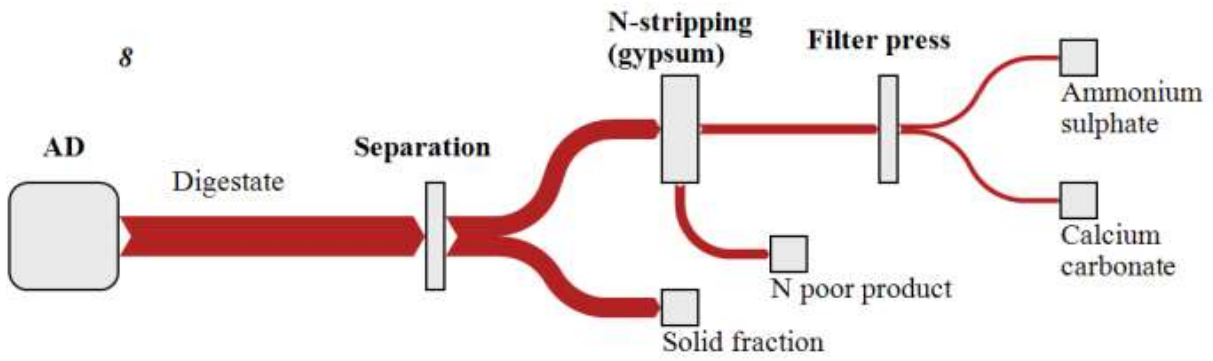
C7

7



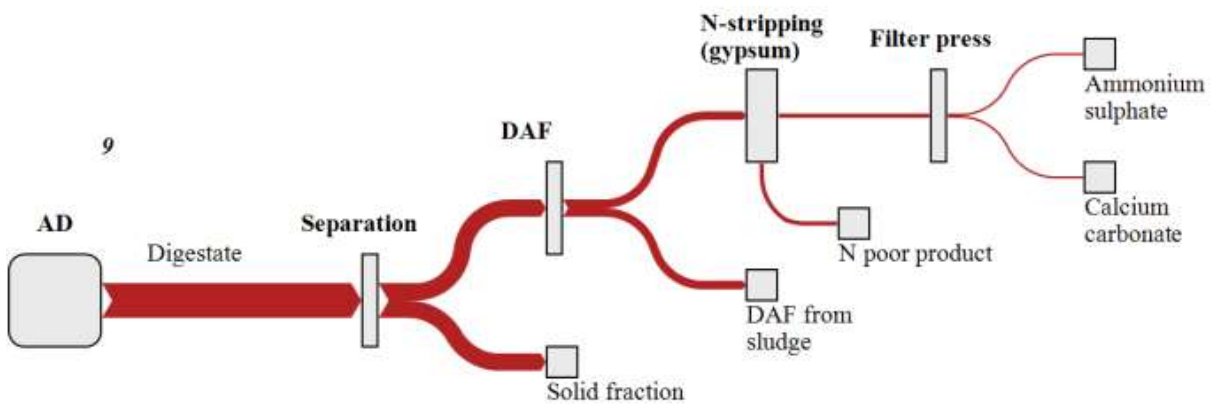
C8

8



C9

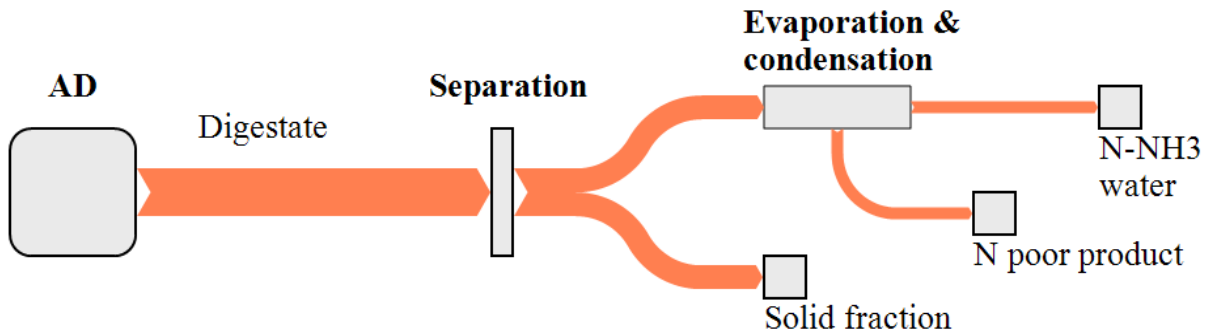
9





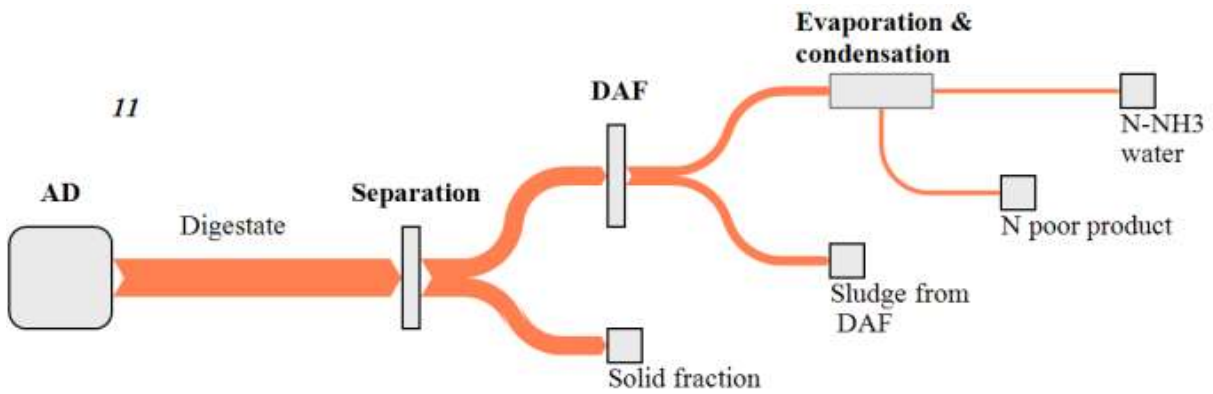
**C10**

10



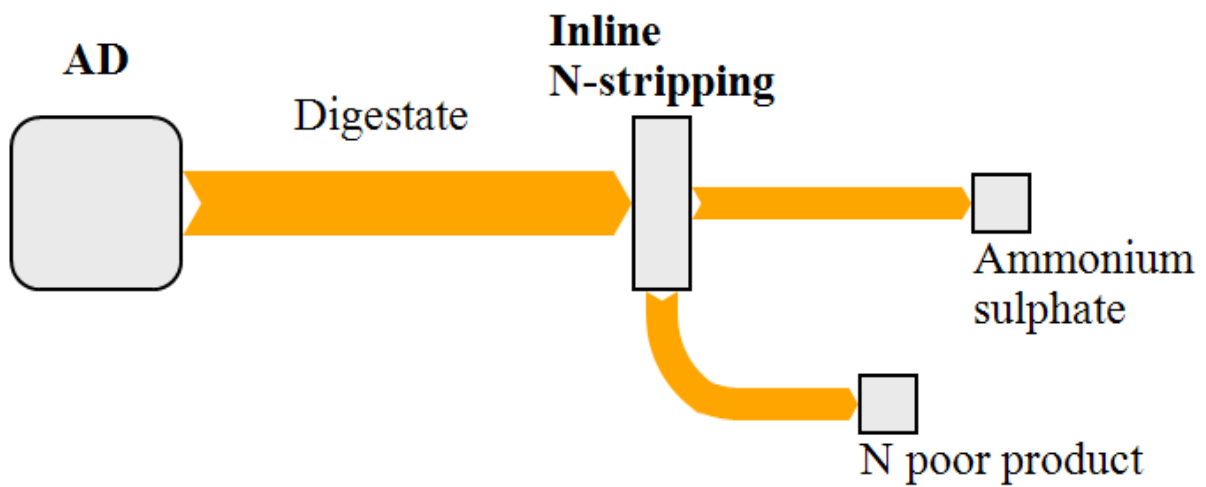
**C11**

11

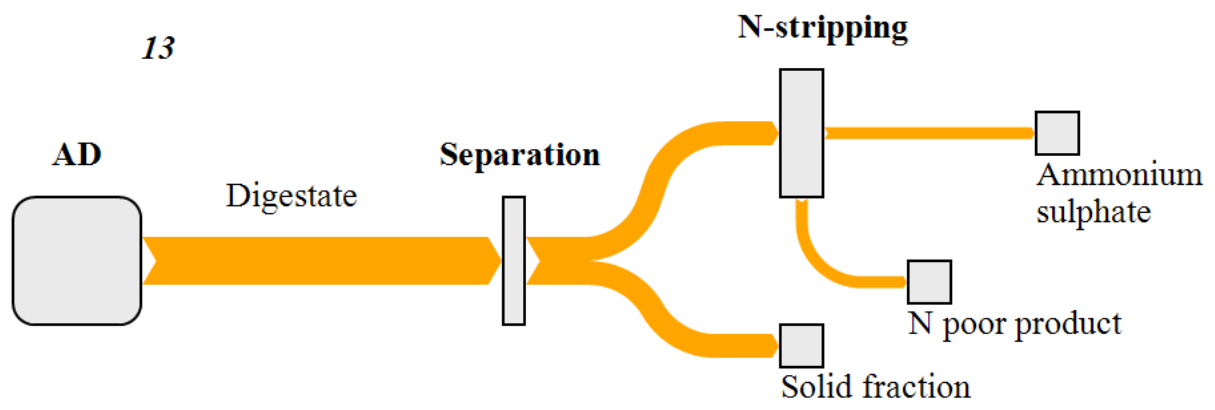


**C12**

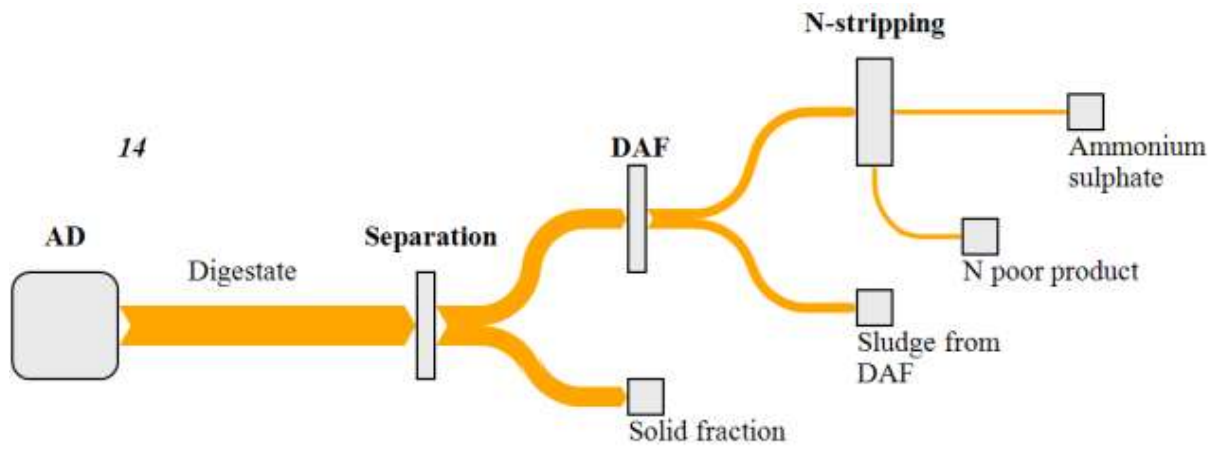
12



**C13**



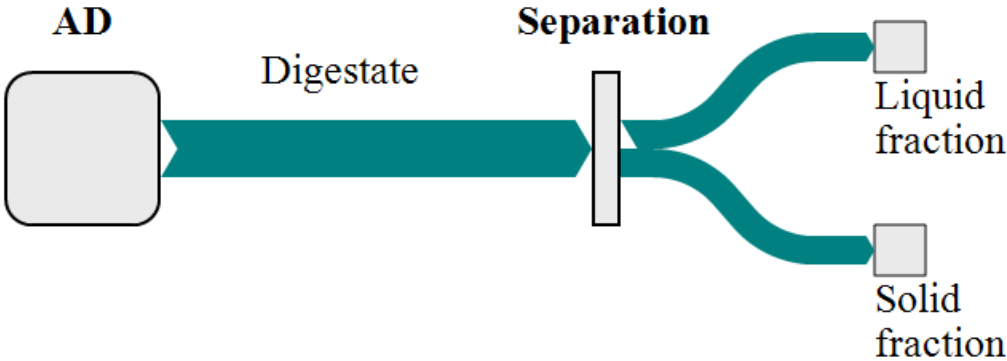
**C14**



### 3 Full set of NRR cascades

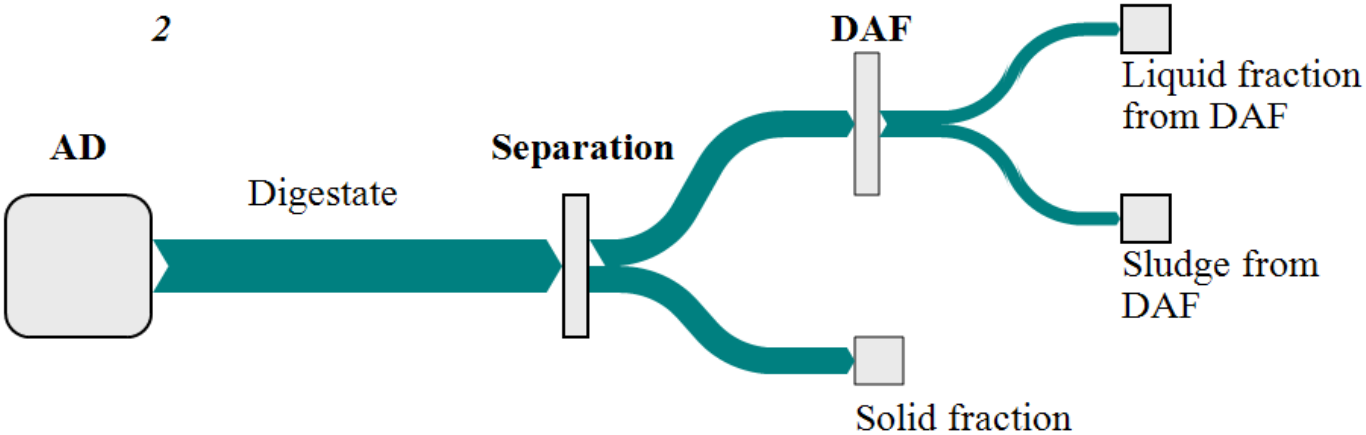
#### 3.1 Cascade C1

1

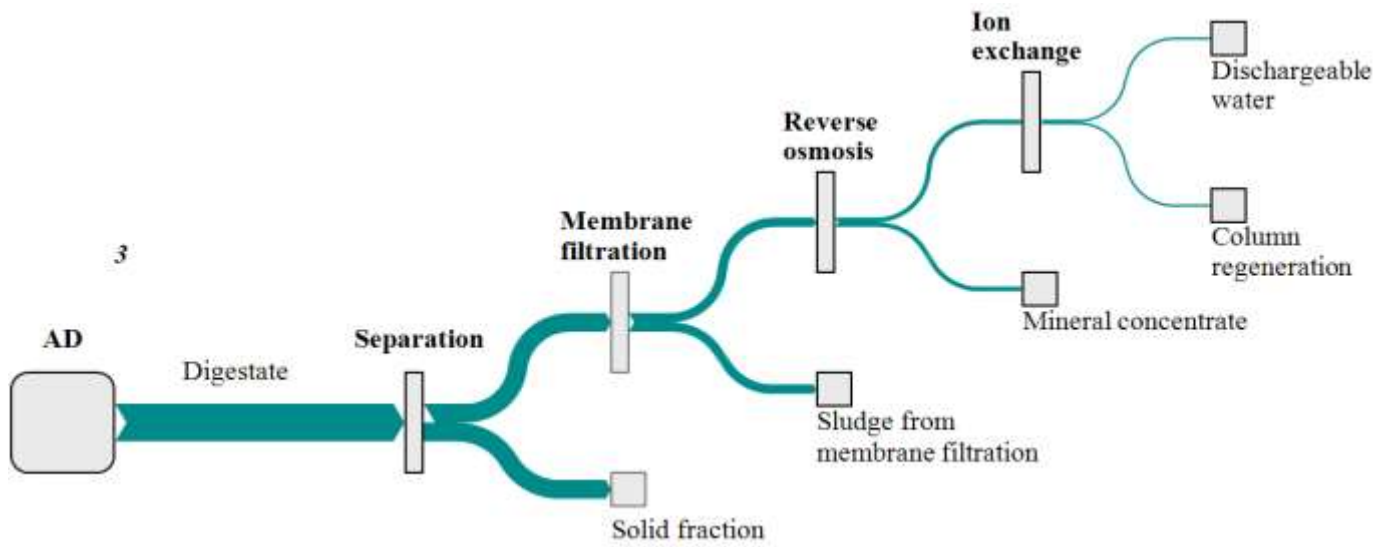


#### 3.2 Cascade C2

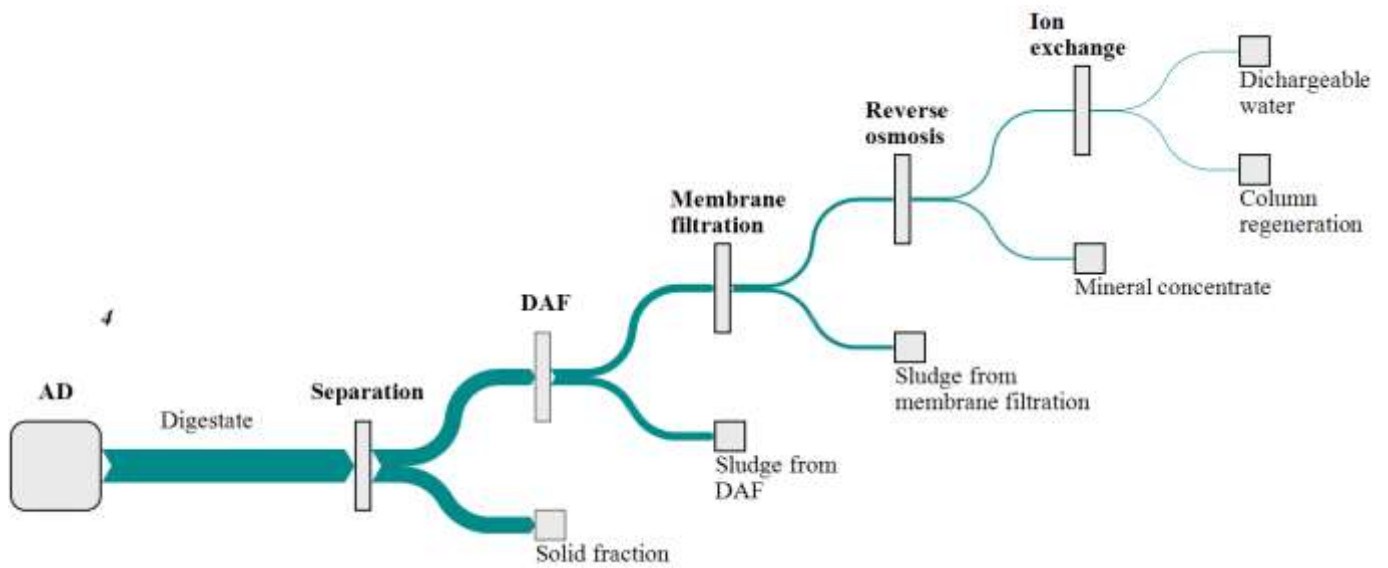
2



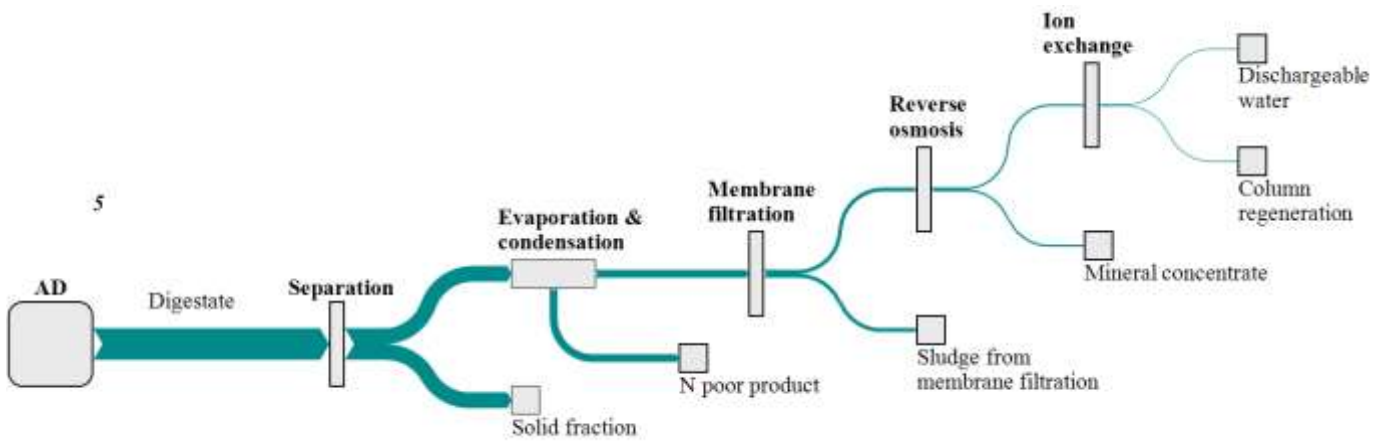
### 3.3 Cascade C3



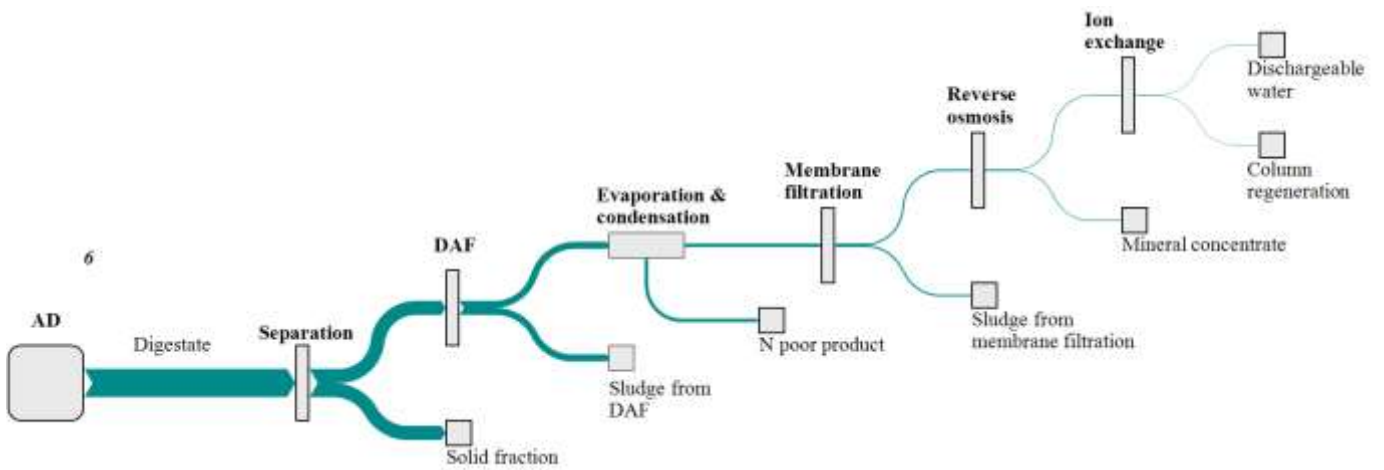
### 3.4 Cascade C4



### 3.5 Cascade C5

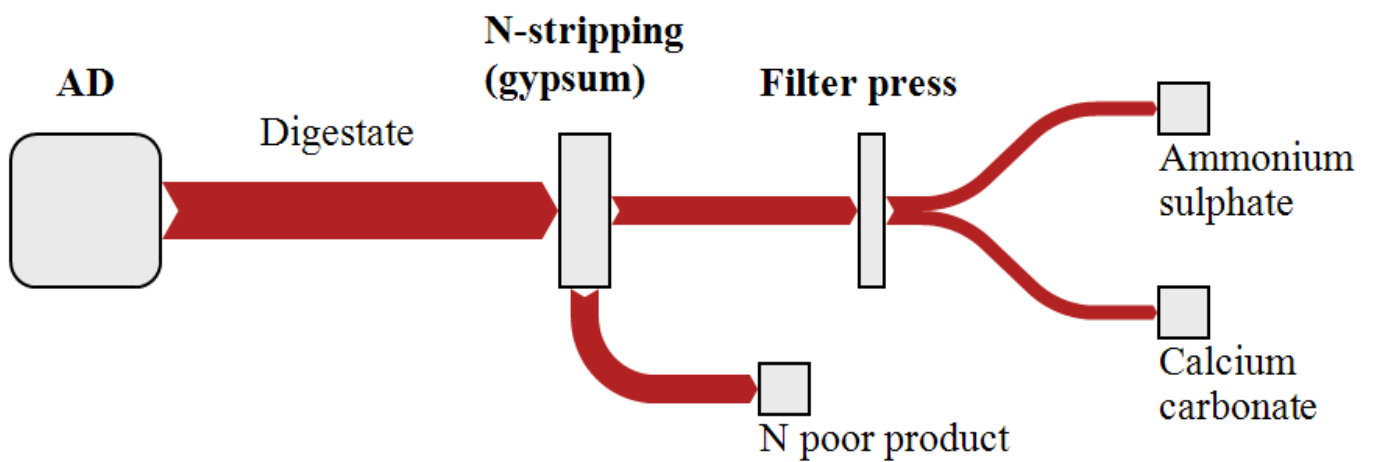


### 3.6 Cascade C6

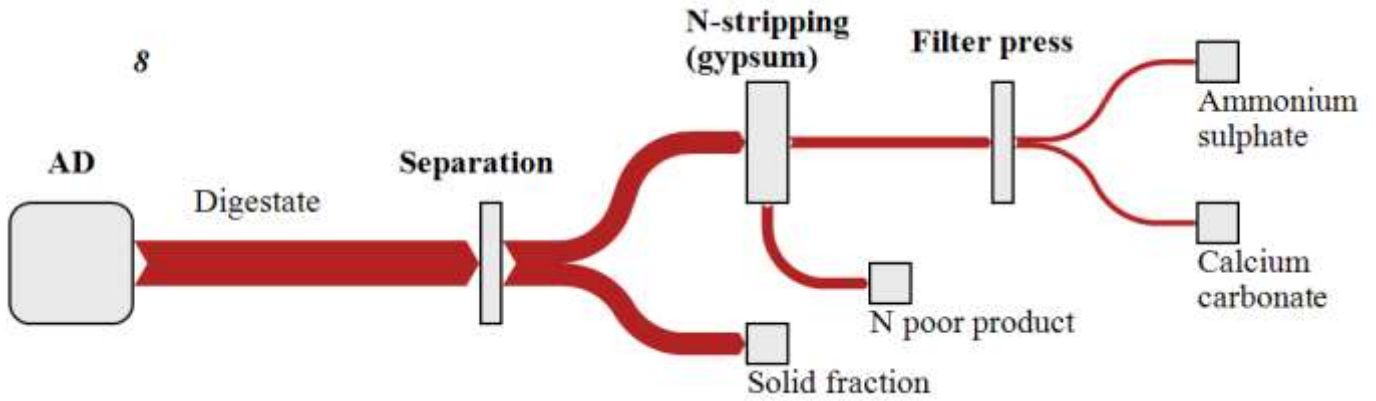


### 3.7 Cascade C7

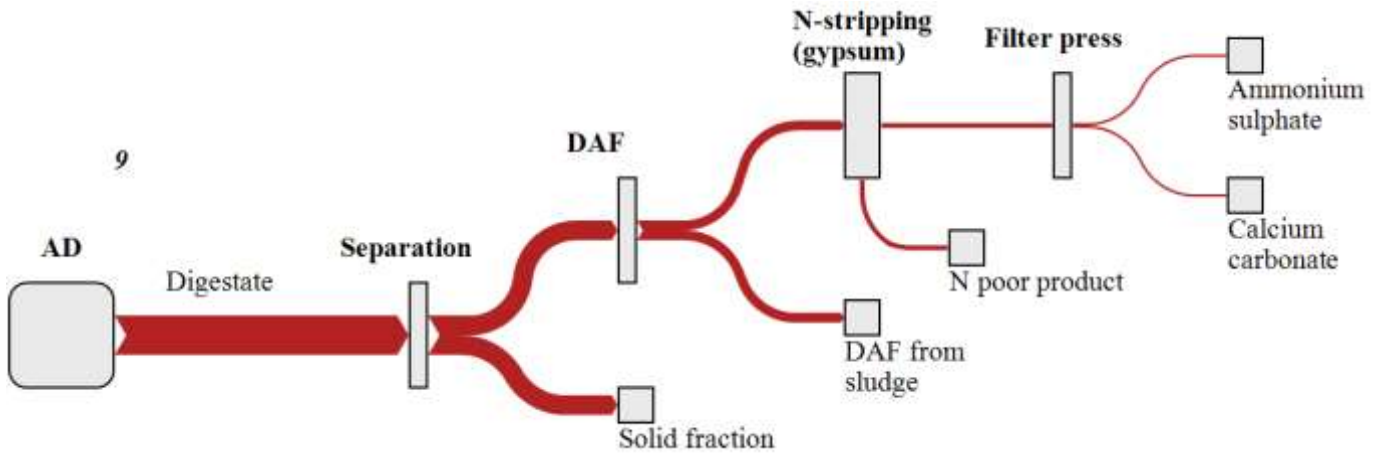
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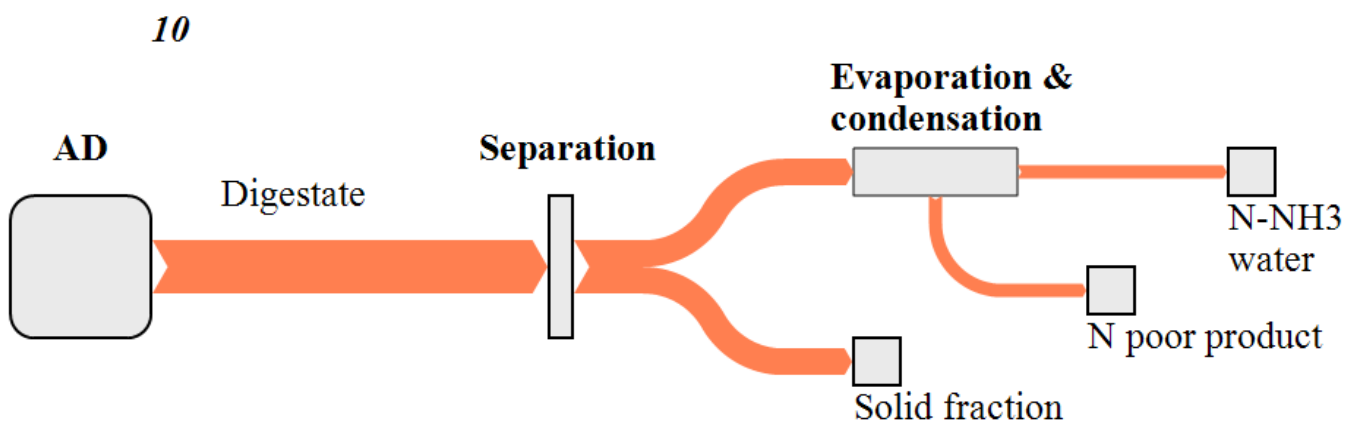
### 3.8 Cascade C8



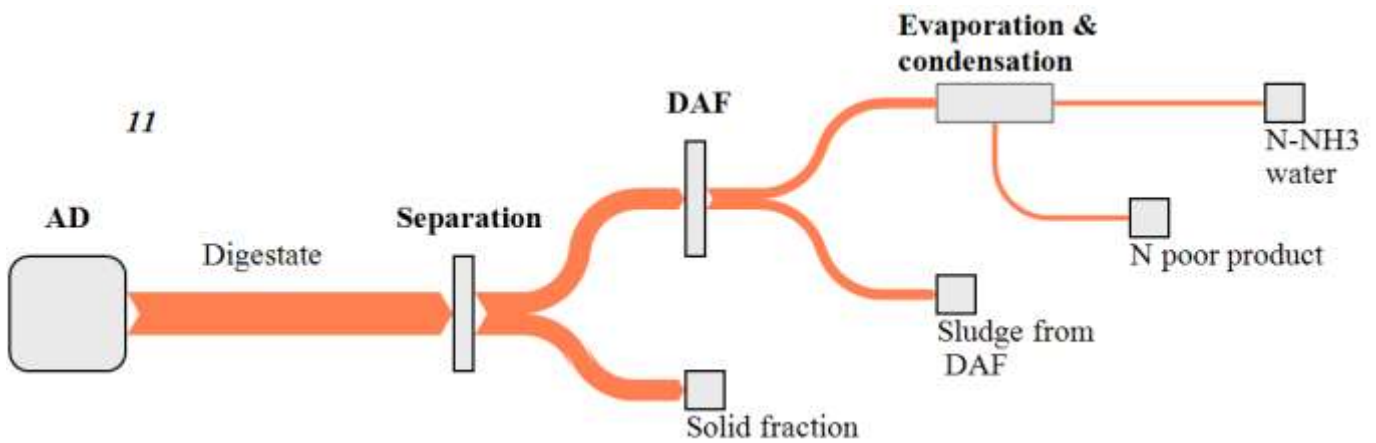
### 3.9 Cascade C9



### 3.10 Cascade C10

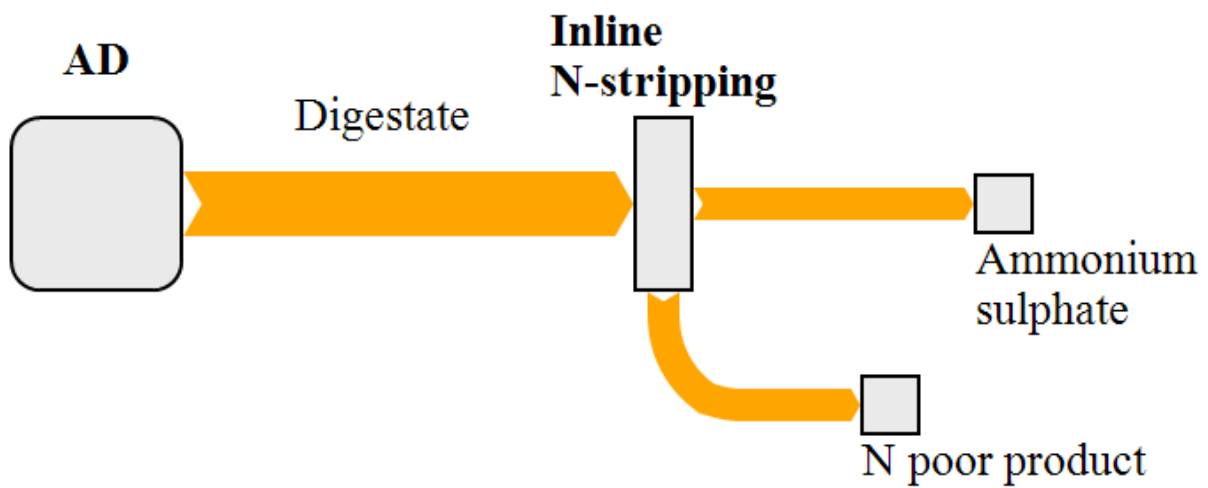


### 3.11 Cascade C11



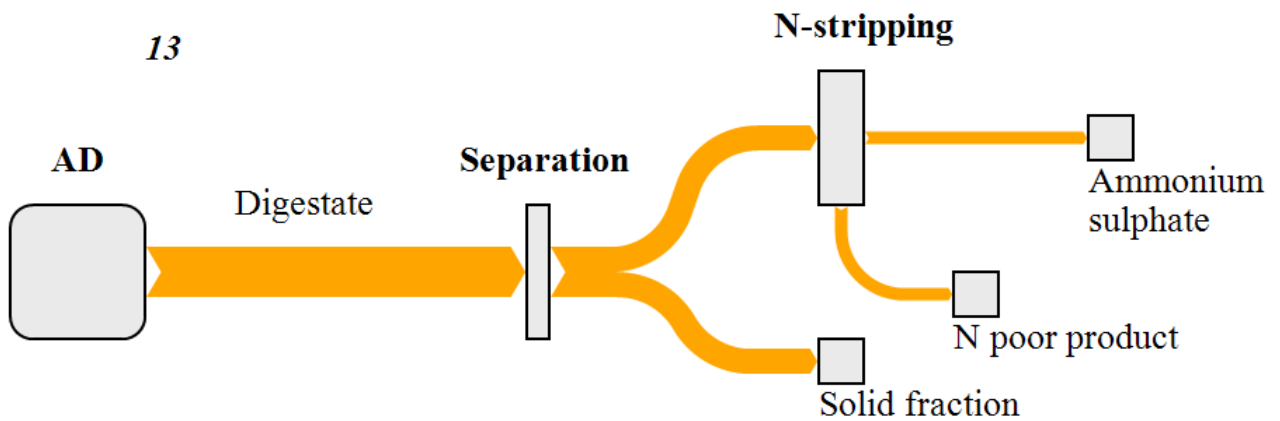
### 3.12 Cascade C12

12

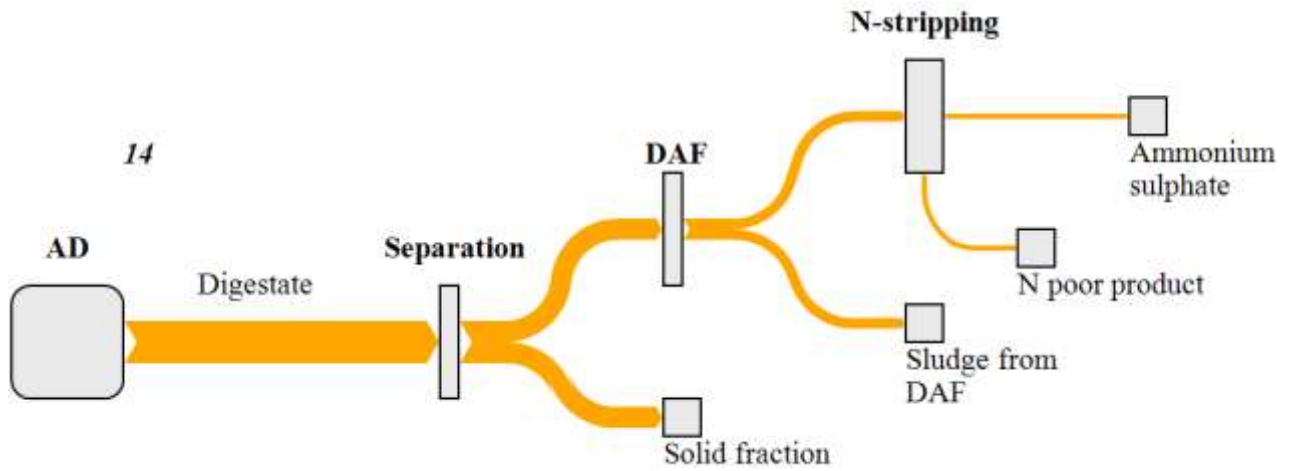


### 3.13 Cascade C13

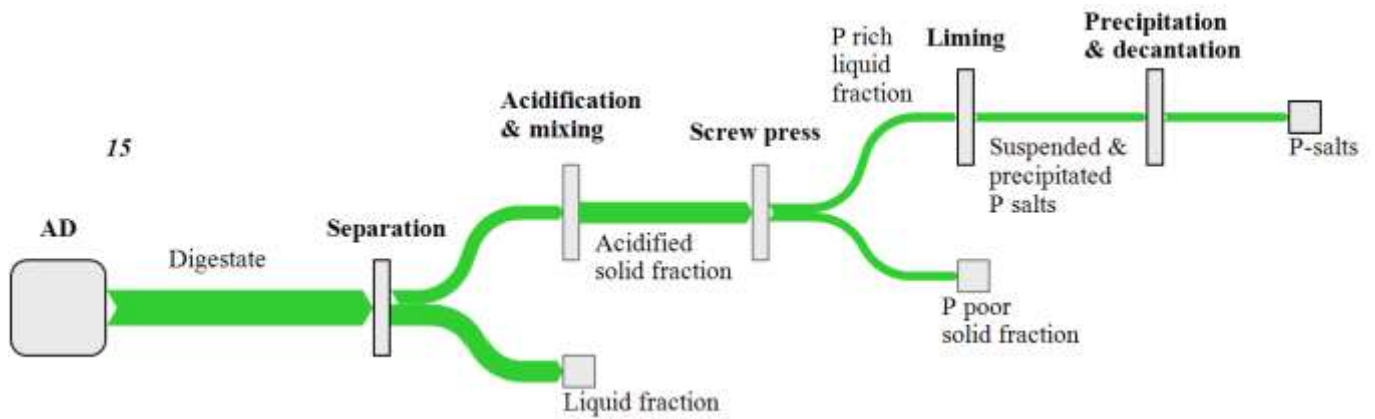
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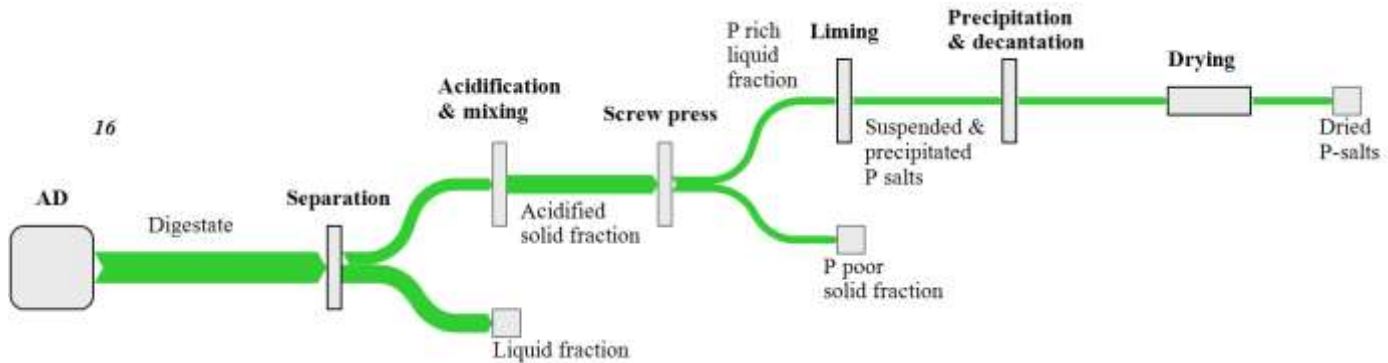
### 3.14 Cascade C14



### 3.15 Cascade C15

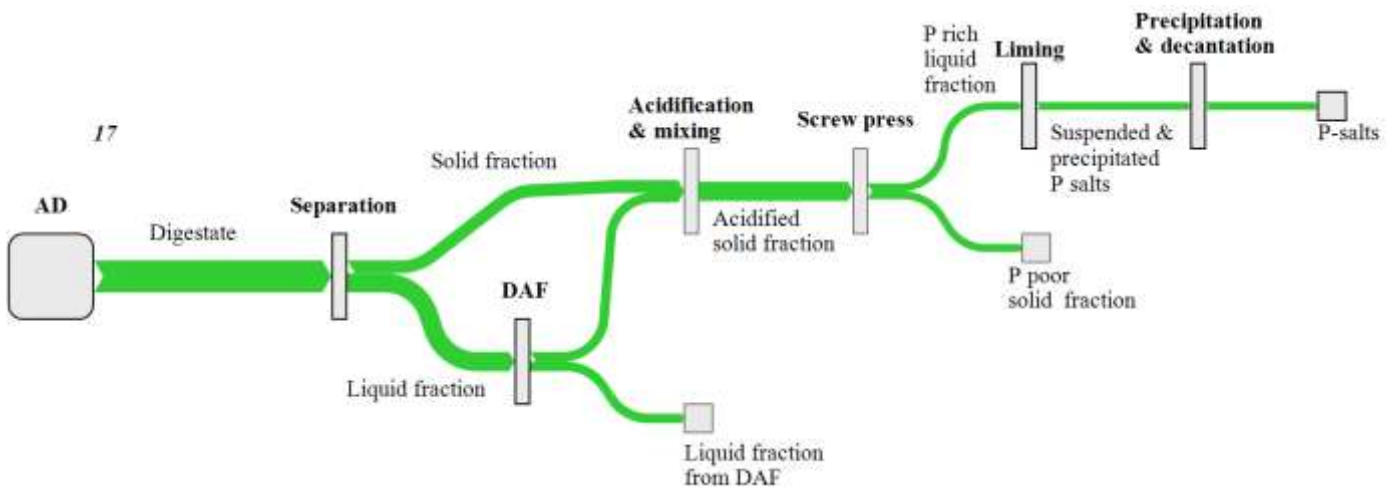


### 3.16 Cascade C16

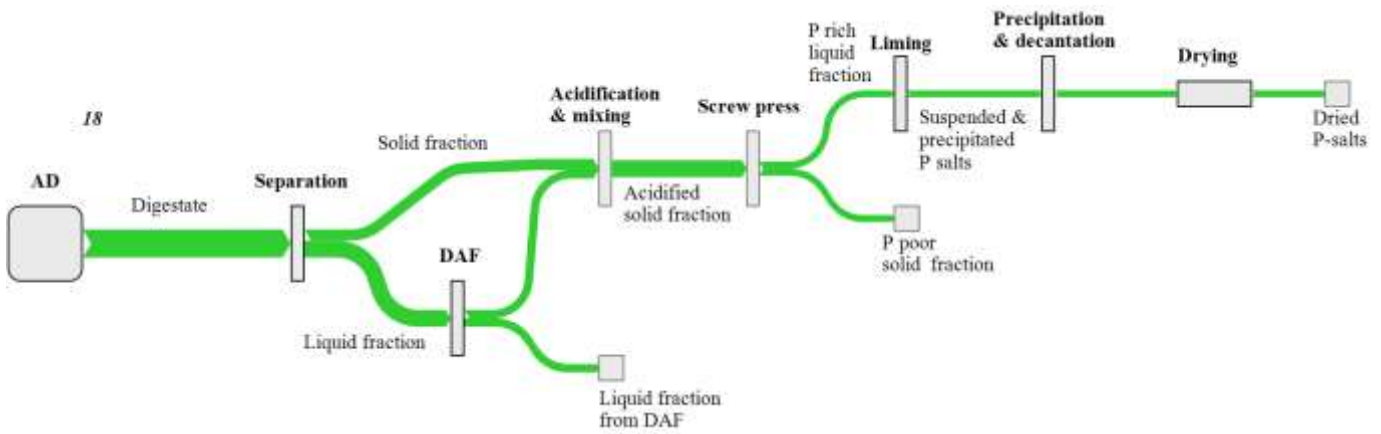




### 3.17 Cascade C17

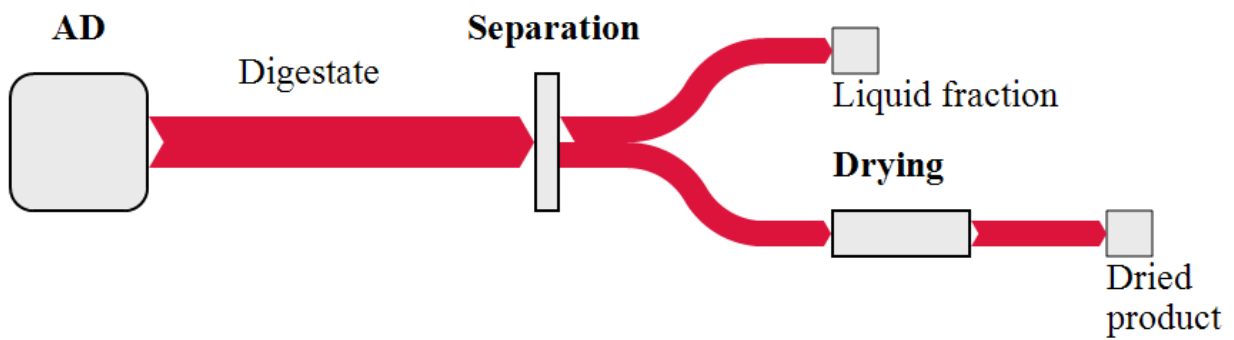


### 3.18 Cascade C18



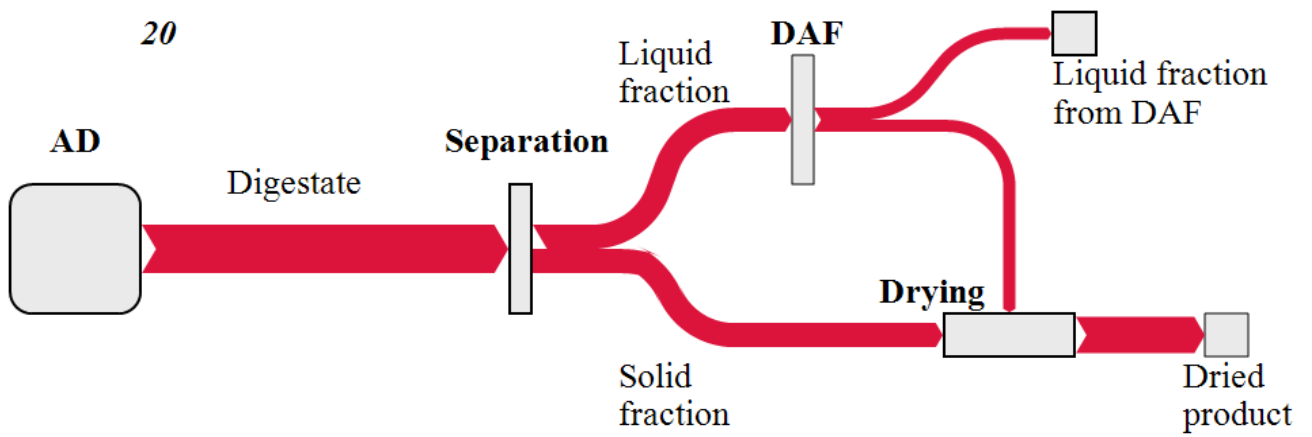
### 3.19 Cascade C19

19



### 3.20 Cascade C20

20



### 3.21 Cascade C21

21

