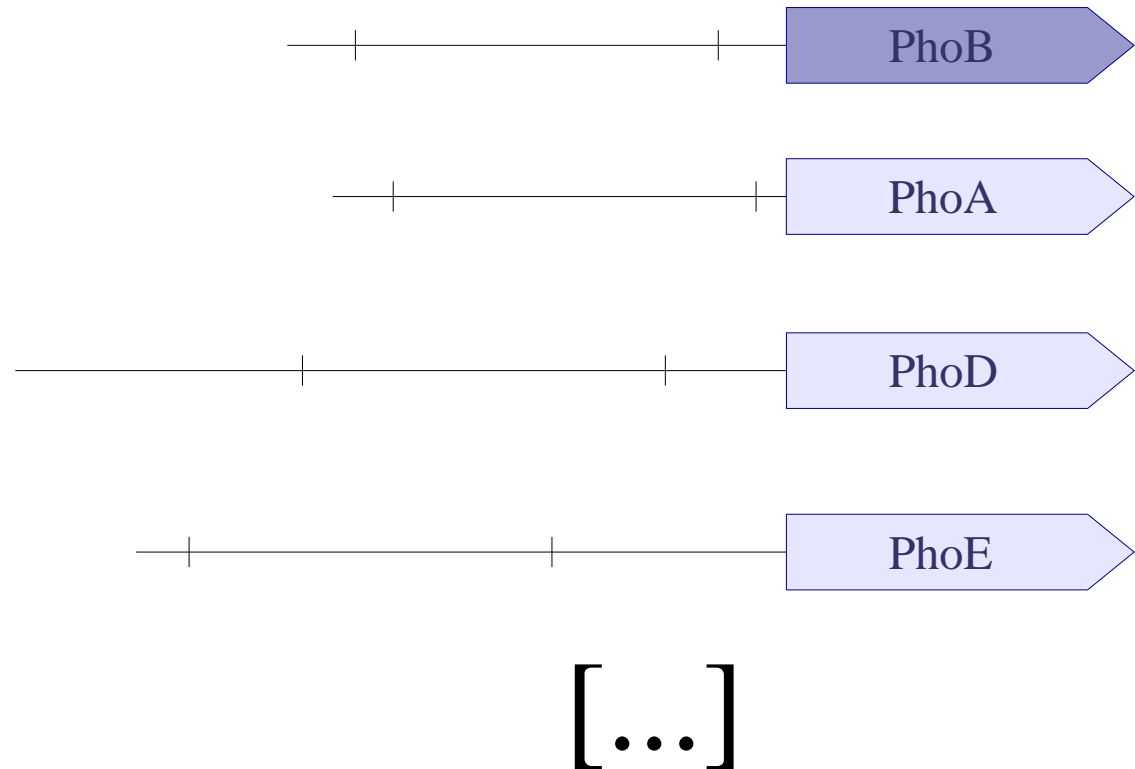
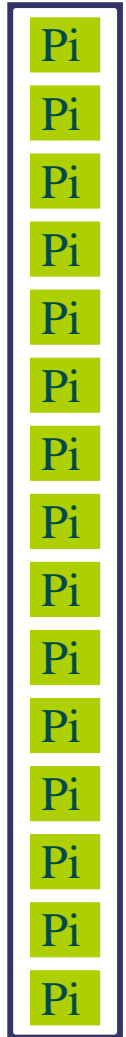


# Régulon Pho

Pst-PhoR

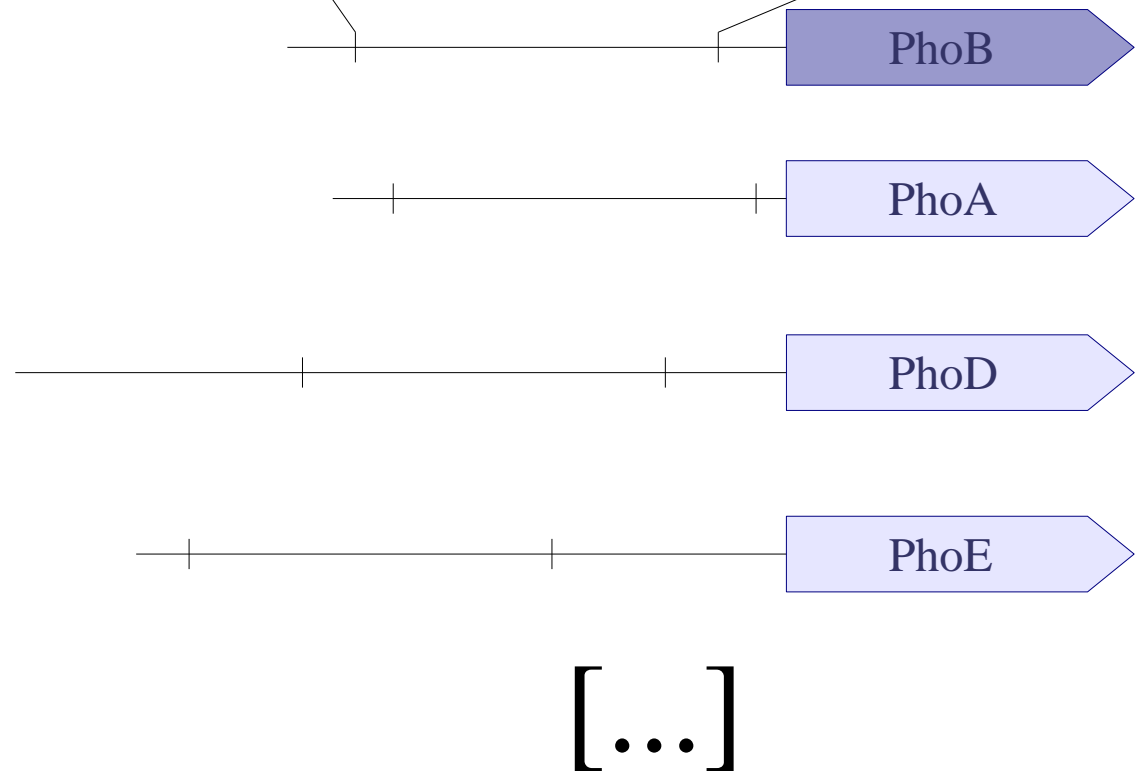
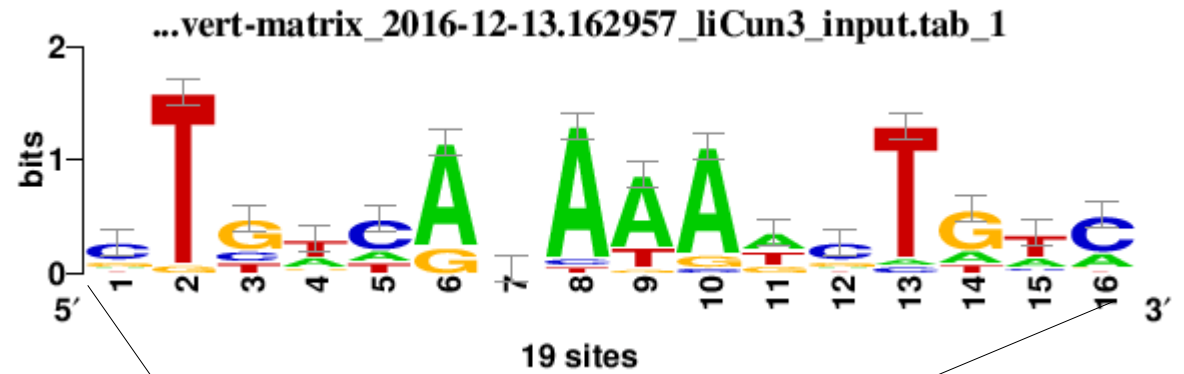


# Régulon Pho

Pst-PhoR

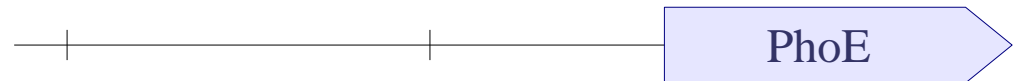
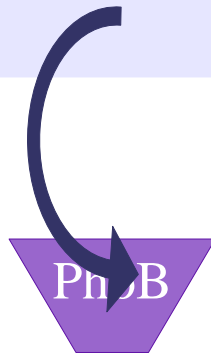
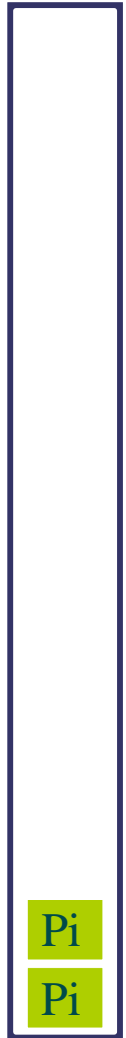


PhoB



# Régulon Pho

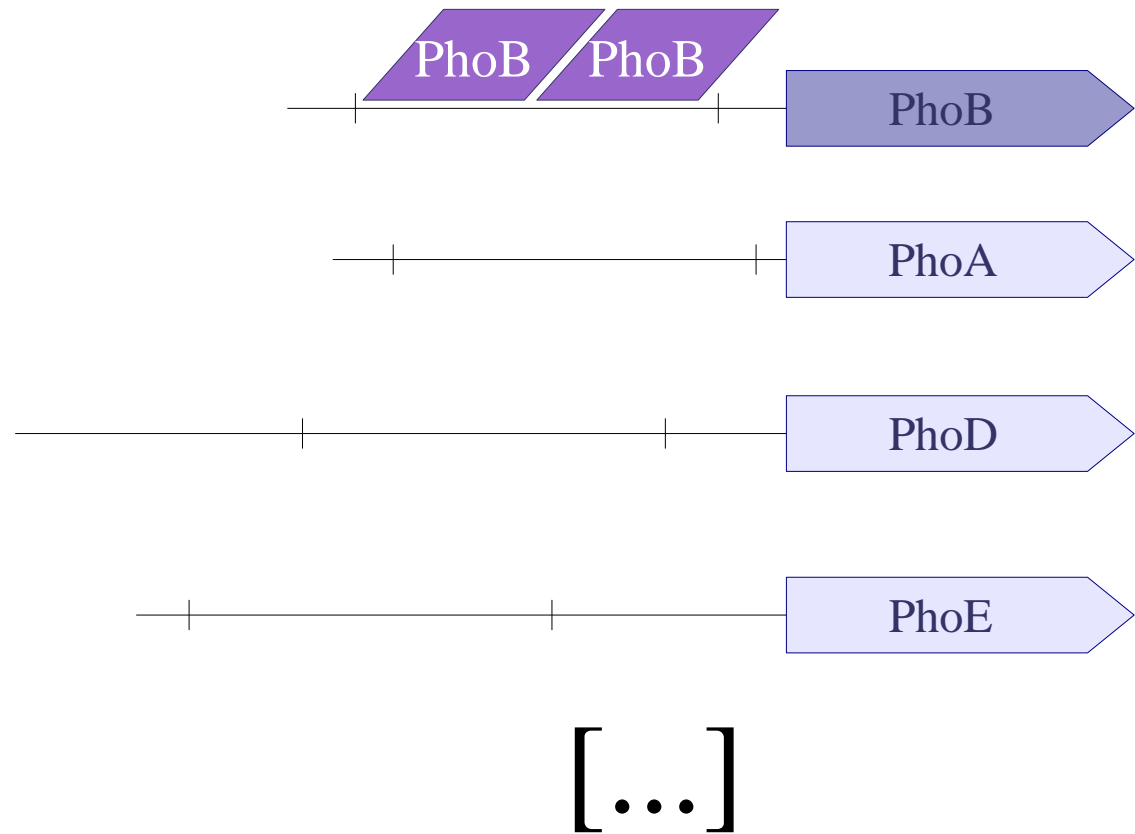
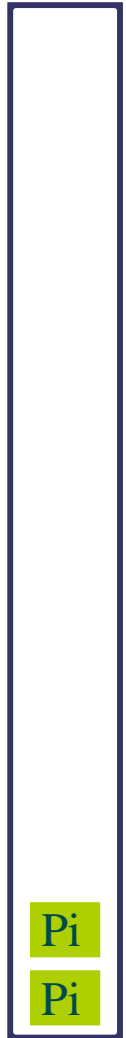
Pst-PhoR



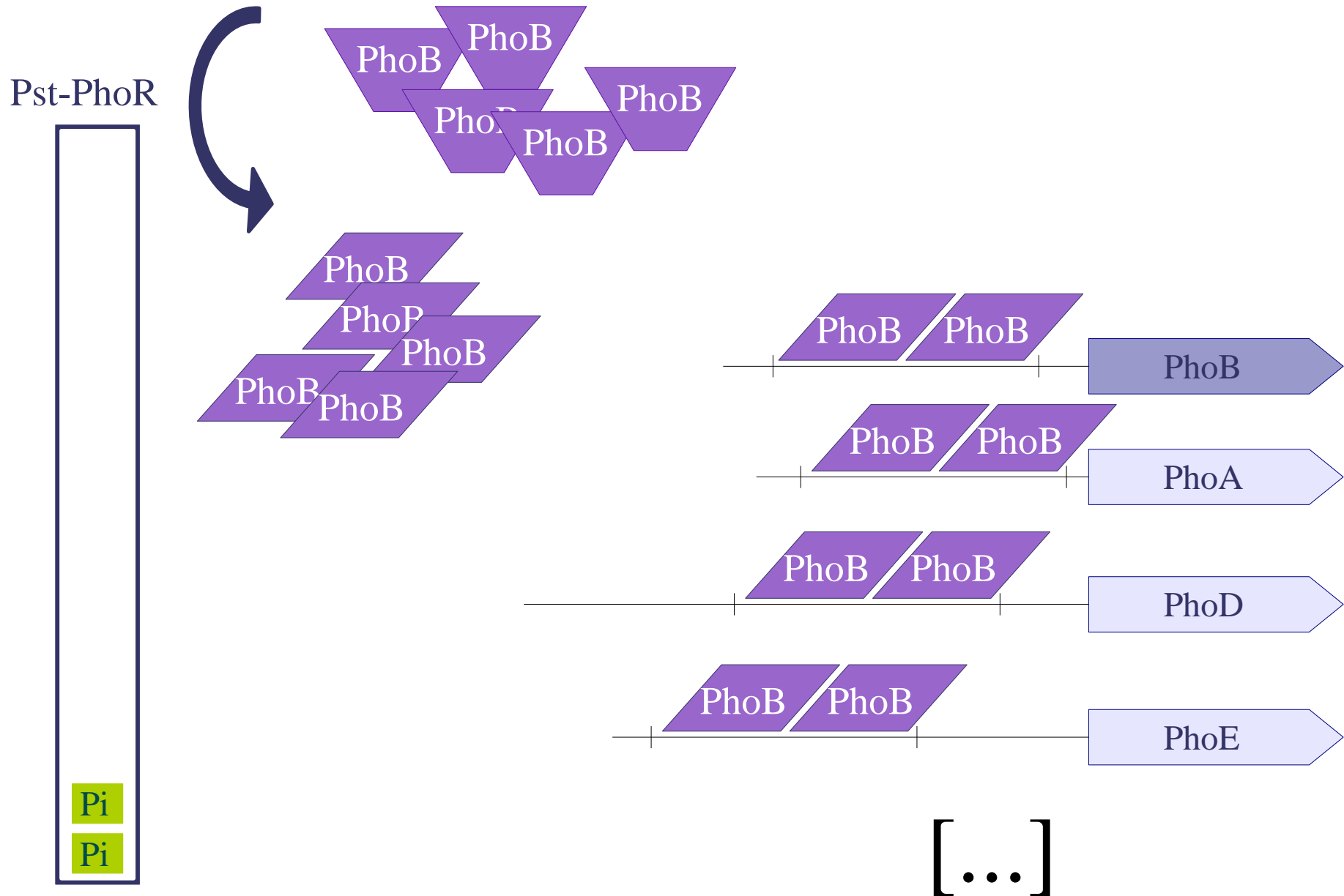
[...]

# Régulon Pho

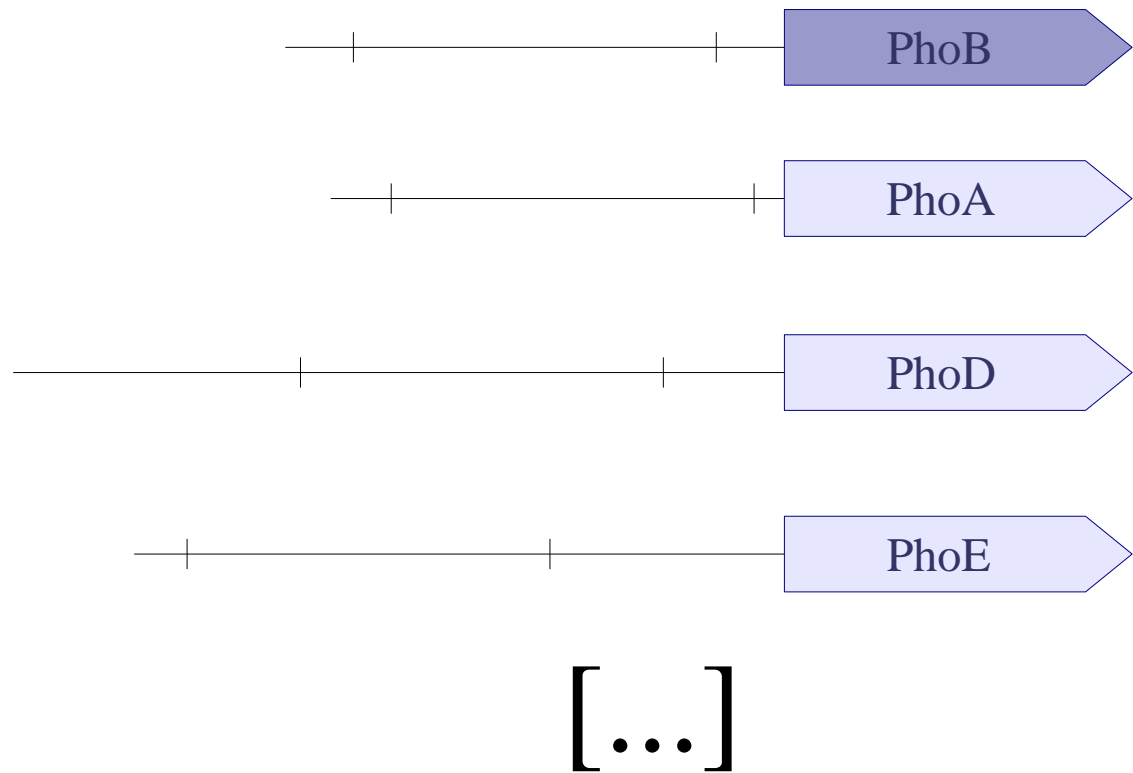
Pst-PhoR



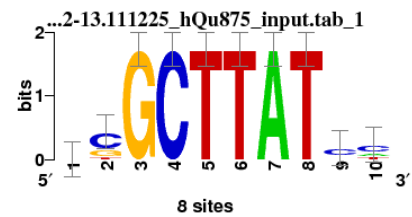
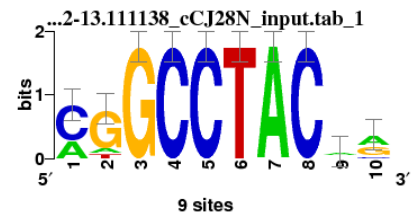
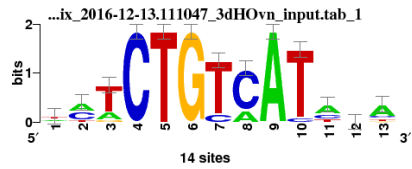
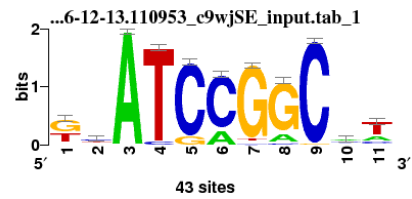
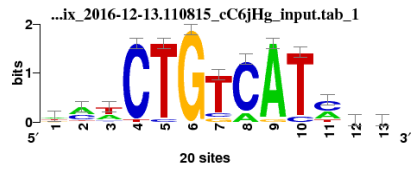
# Régulon Pho



# Régulon Pho



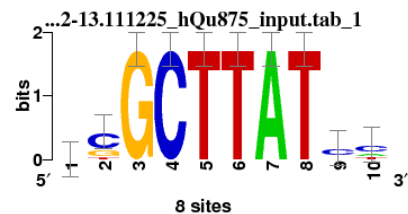
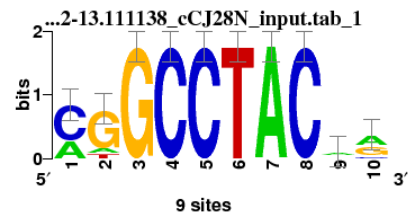
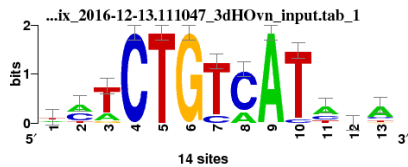
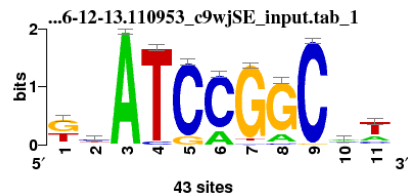
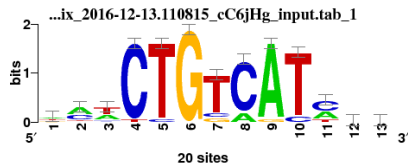
## Base de données (86 FT)



## Base de données (86 FT)

- Alignement Local Smith-Waterman

- Plusieurs métriques :



Pearson correlation  
coefficient (PCC)

$$PCC(X, Y) = \frac{\sum_{b=A}^T (f_X(b) - \bar{f}_X) \cdot (f_Y(b) - \bar{f}_Y)}{\sqrt{\sum_{b=A}^T (f_X(b) - \bar{f}_X)^2 \cdot \sum_{b=A}^T (f_Y(b) - \bar{f}_Y)^2}}$$

Chi-square (pCS)  
(1-p-value of)

$$\chi_3^2(X, Y) = \sum_{K=\{X,Y\}} \sum_{b=A}^T \frac{(n_K(b) - n_K^e(b))^2}{n_K^e(b)}$$

Average  
Kullback-Leibler (AKL)

$$AKL(X, Y) = 10 - \frac{\sum_{b=A}^T f_X(b) \cdot \log \frac{f_X(b)}{f_Y(b)} + \sum_{b=A}^T f_Y(b) \cdot \log \frac{f_Y(b)}{f_X(b)}}{2}$$

Sum of squared  
distances (SSD)

$$SSD(X, Y) = 2 - \sum_{b=A}^T (f_X(b) - f_Y(b))^2$$

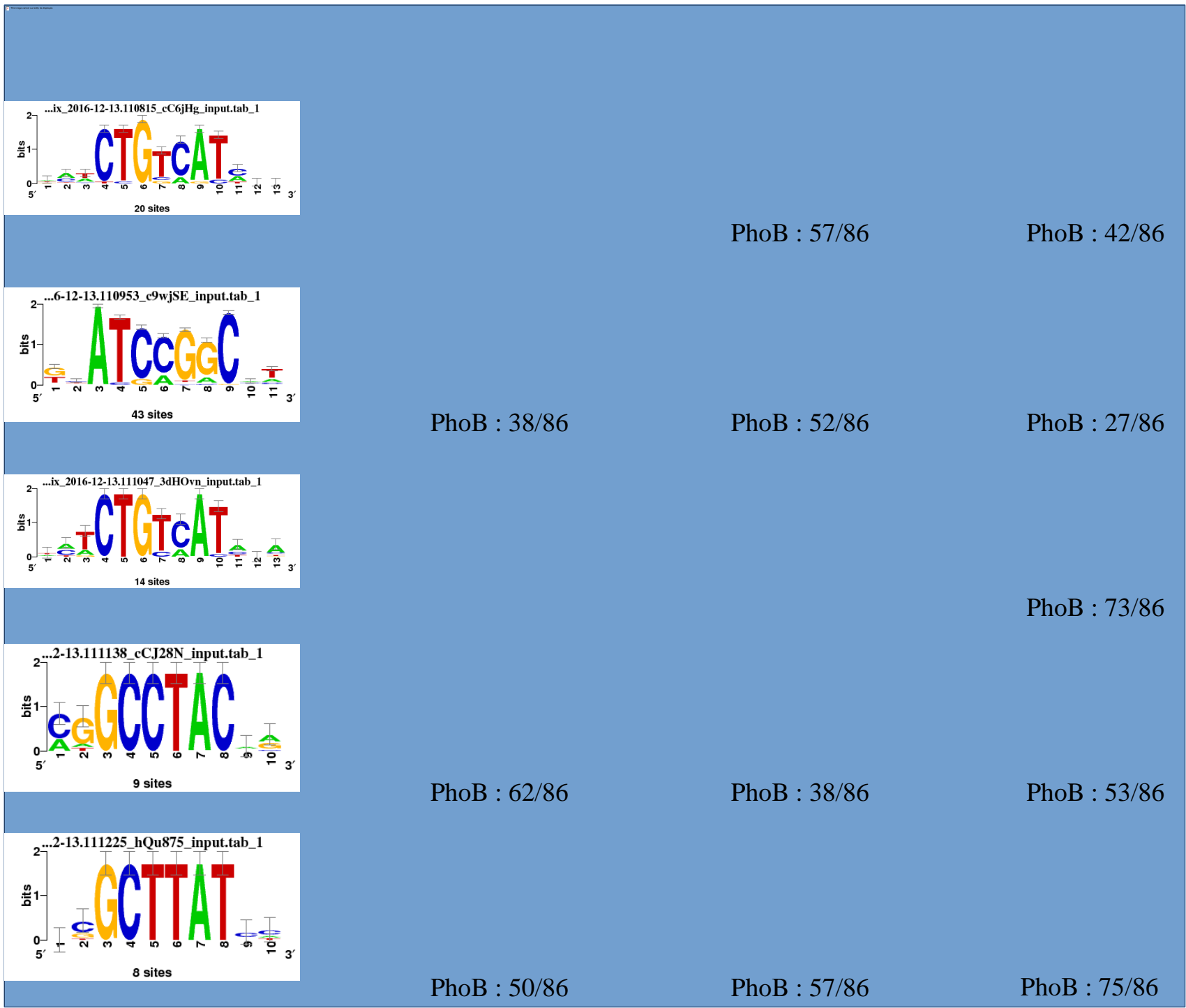
Average log-likelihood  
ratio (ALLR)

$$ALLR(X, Y) = \frac{\sum_{b=A}^T n_X(b) \cdot \log \frac{f_Y(b)}{p_{ref}(b)} + \sum_{b=A}^T n_Y(b) \cdot \log \frac{f_X(b)}{p_{ref}(b)}}{\sum_{b=A}^T (n_X(b) + n_Y(b))}$$

ALLR with lower limit  
(ALLR\_LL)

Same as above, but a lower limit of -2 is  
imposed on the score (see text)







# Analyse de signaux

Base de données (304 PSSMs)



Matrice d'affinite



Methode de clustering : Affinity propagation

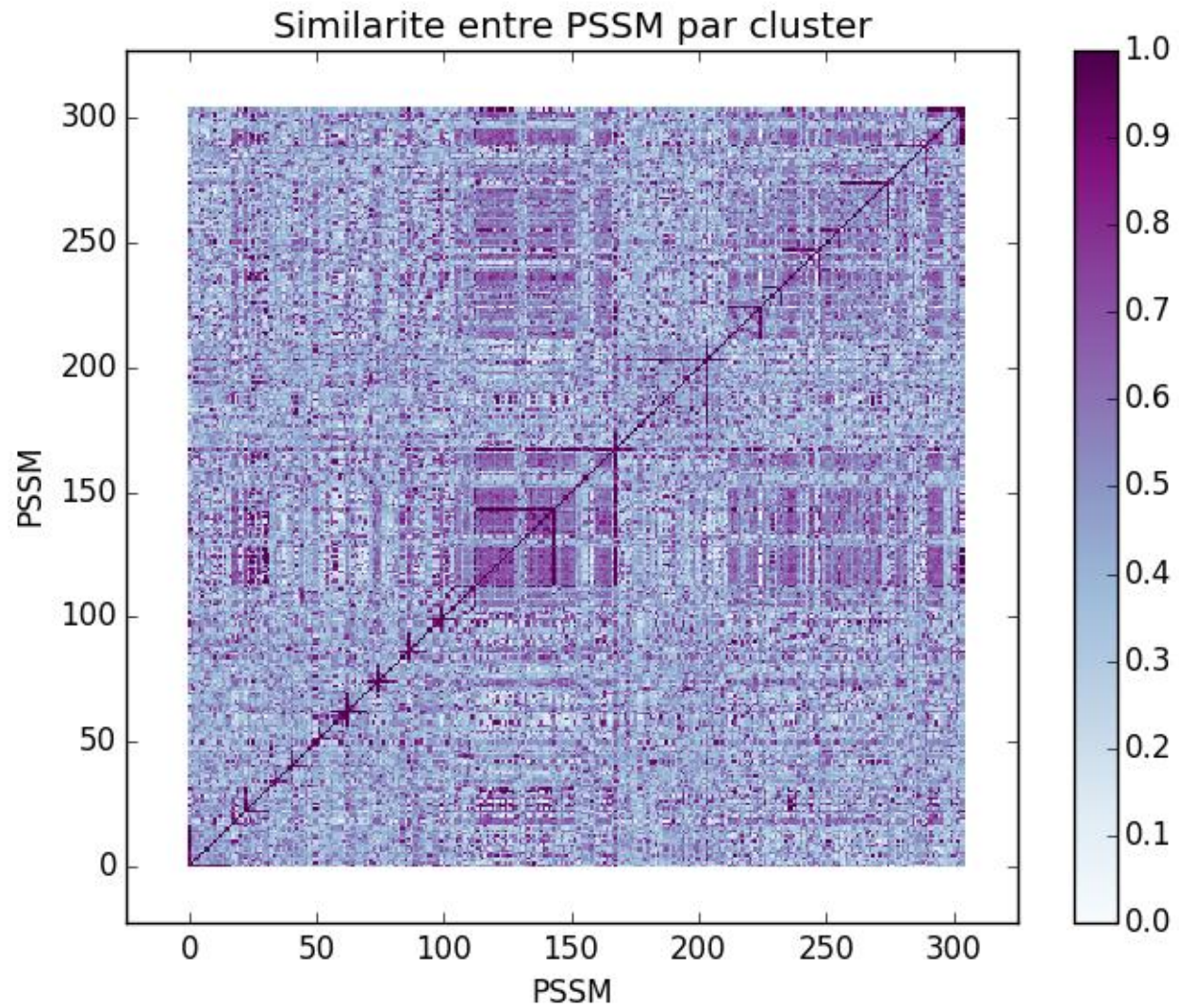
# Analyse de signaux

16 clusters

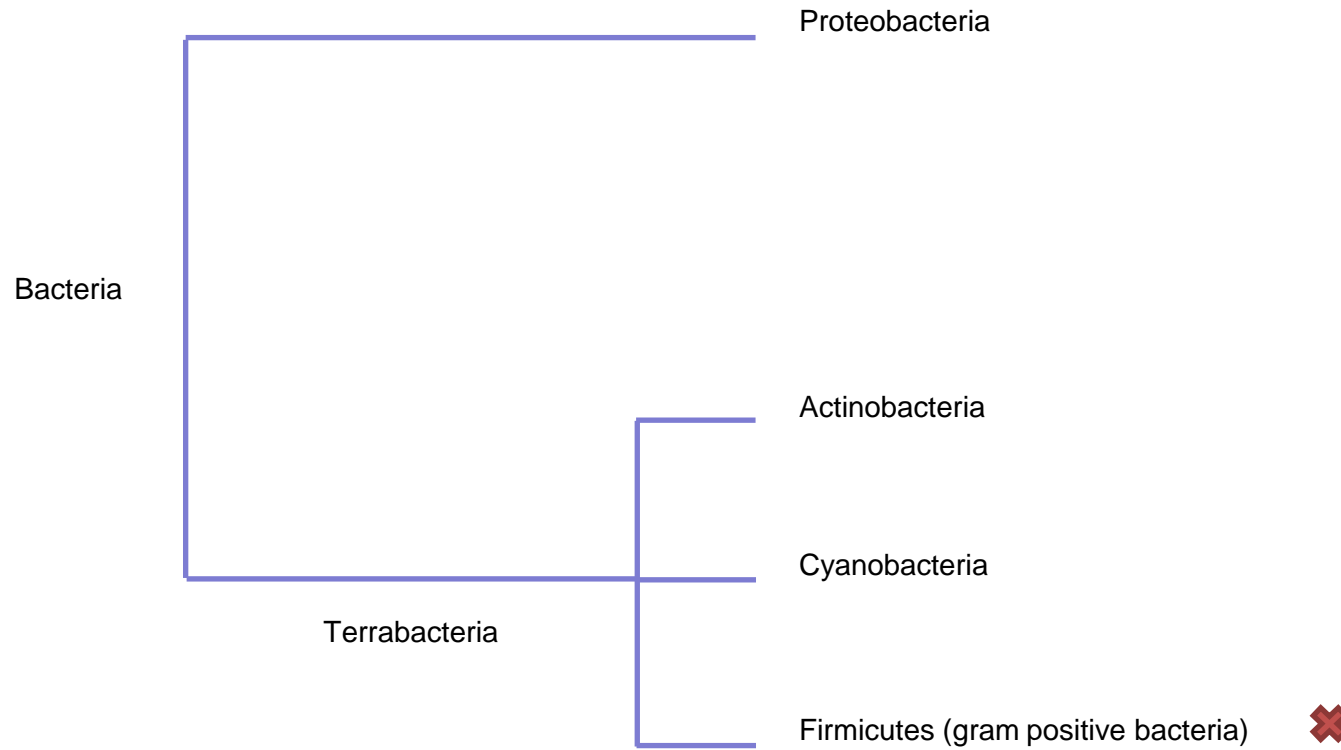


PhoB dans le meme cluster que  
PhoA, PhoX, PhoD, ArgR, Lrp, IHF, GadE, GcvA

# Similarite de signaux



# Conservation de signaux



Merci de votre attention