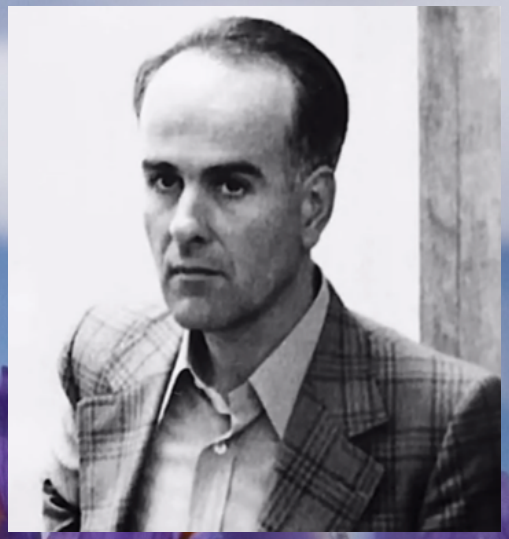
Dialogue auxine / facteurs de transcription chez les fleurs

- Hommage au professeur Jean Guern

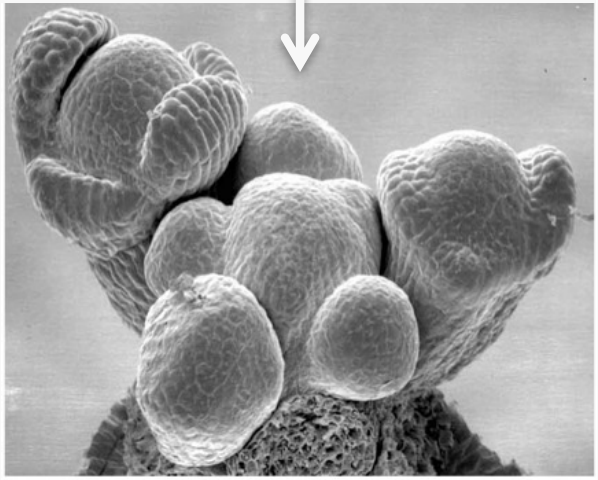
- François Parcy
- Physiologie Cellulaire et Végétale
- Grenoble

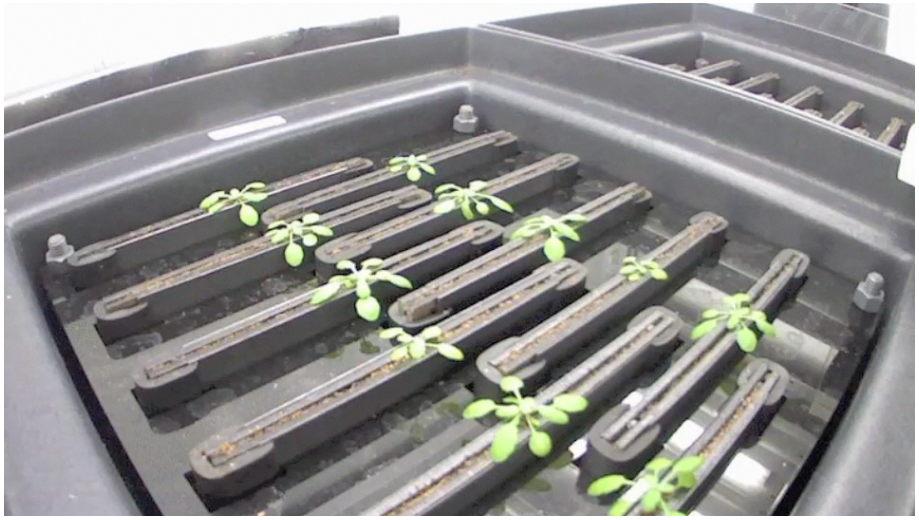


Heureux celui …
… qui plane sur la vie, et comprend sans effort
Le langage des fleurs et des choses muettes!

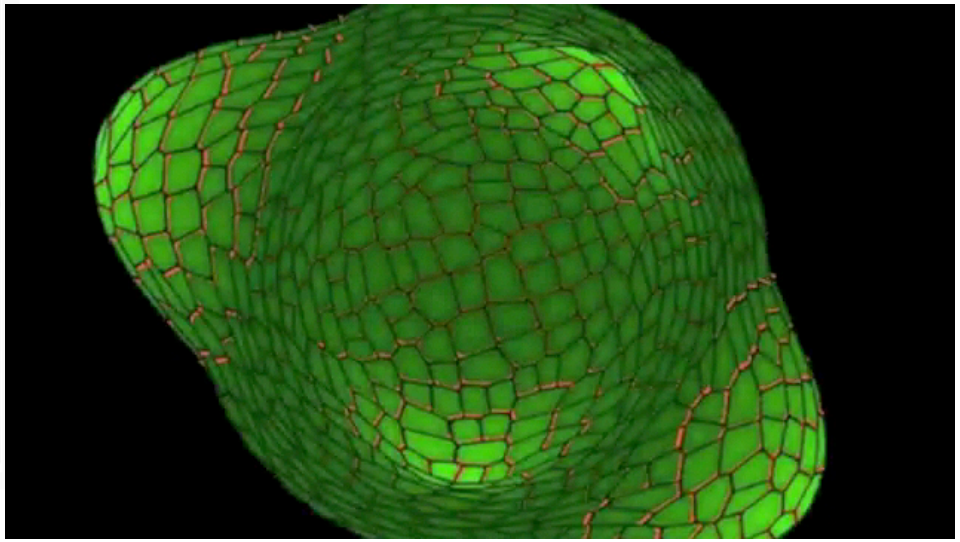
— *Charles Baudelaire*

La naissance des fleurs





Movie from R. Bellan Carnegie Institute of Washington Stanford



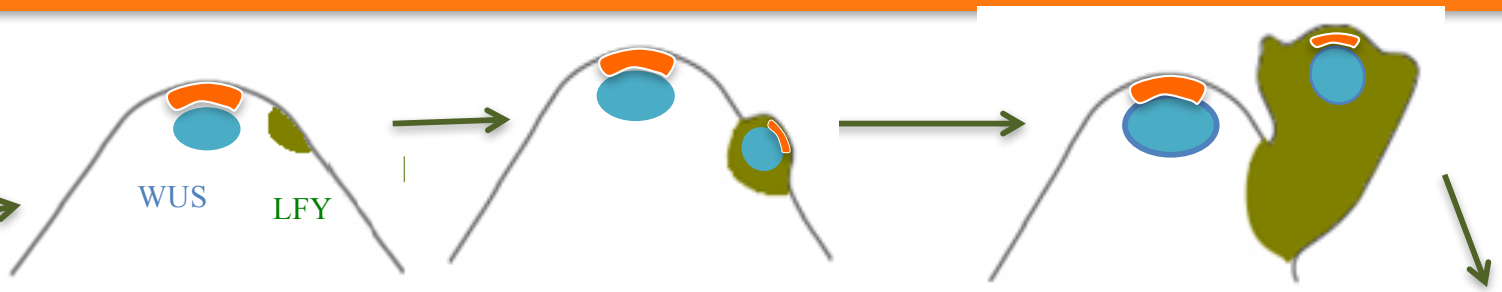
Model by Smith et al. PNAS 2006

Les données génétiques

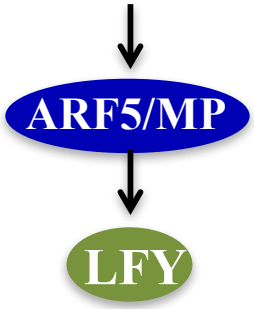
wt *mp*

wt *lfy*

Les régulateurs du développement de la fleur

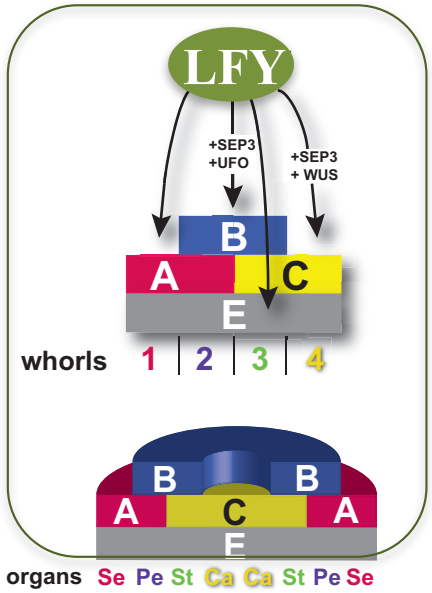


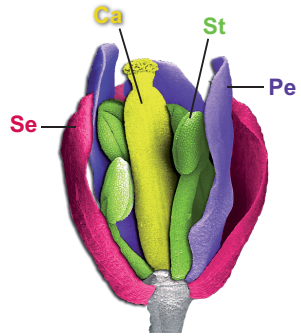
Auxin maxima



Positional signal

Vernoux et al, Devt (2000)
Yamaguchi et al, Dev Cell (2013)
Li et al, Science signaling (2013)

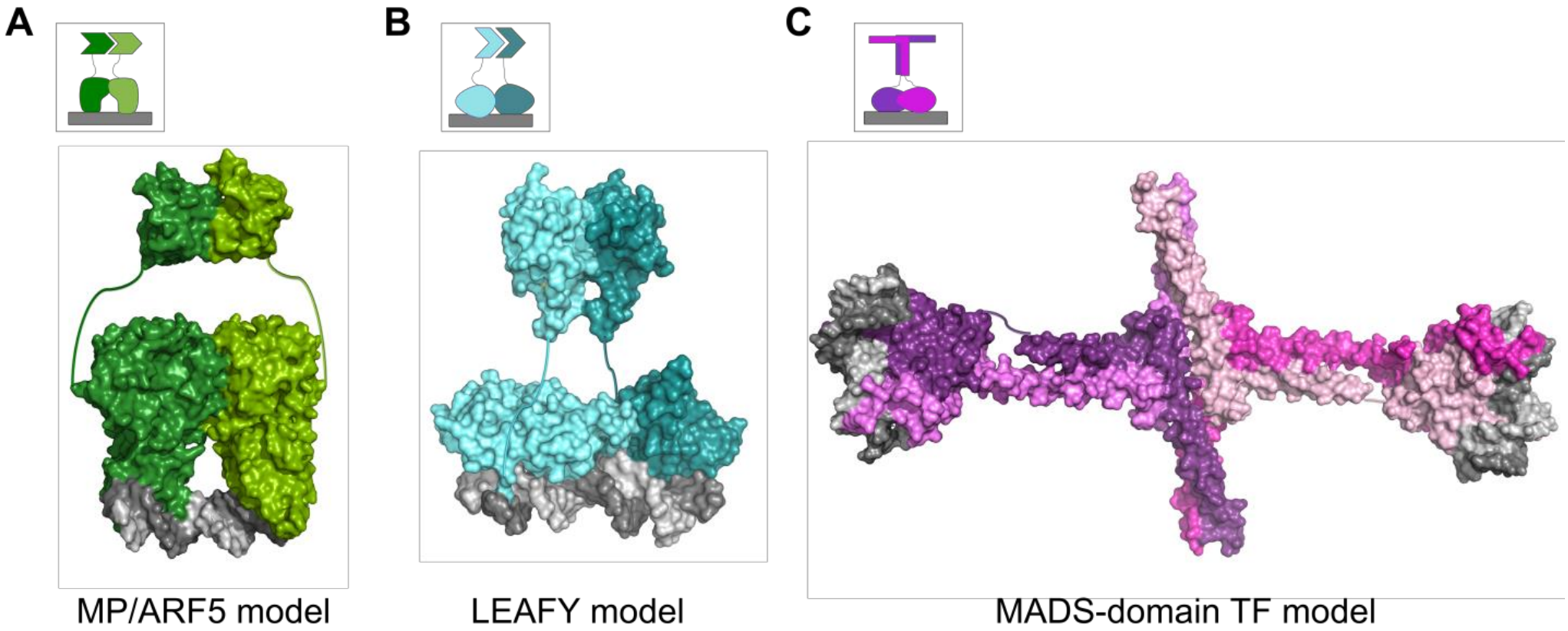




Moyroud et al. TiPS 2010
Chahtane et al. Plant J. 2013
Yamaguchi et al, Dev Cell (2013)

Floral identity

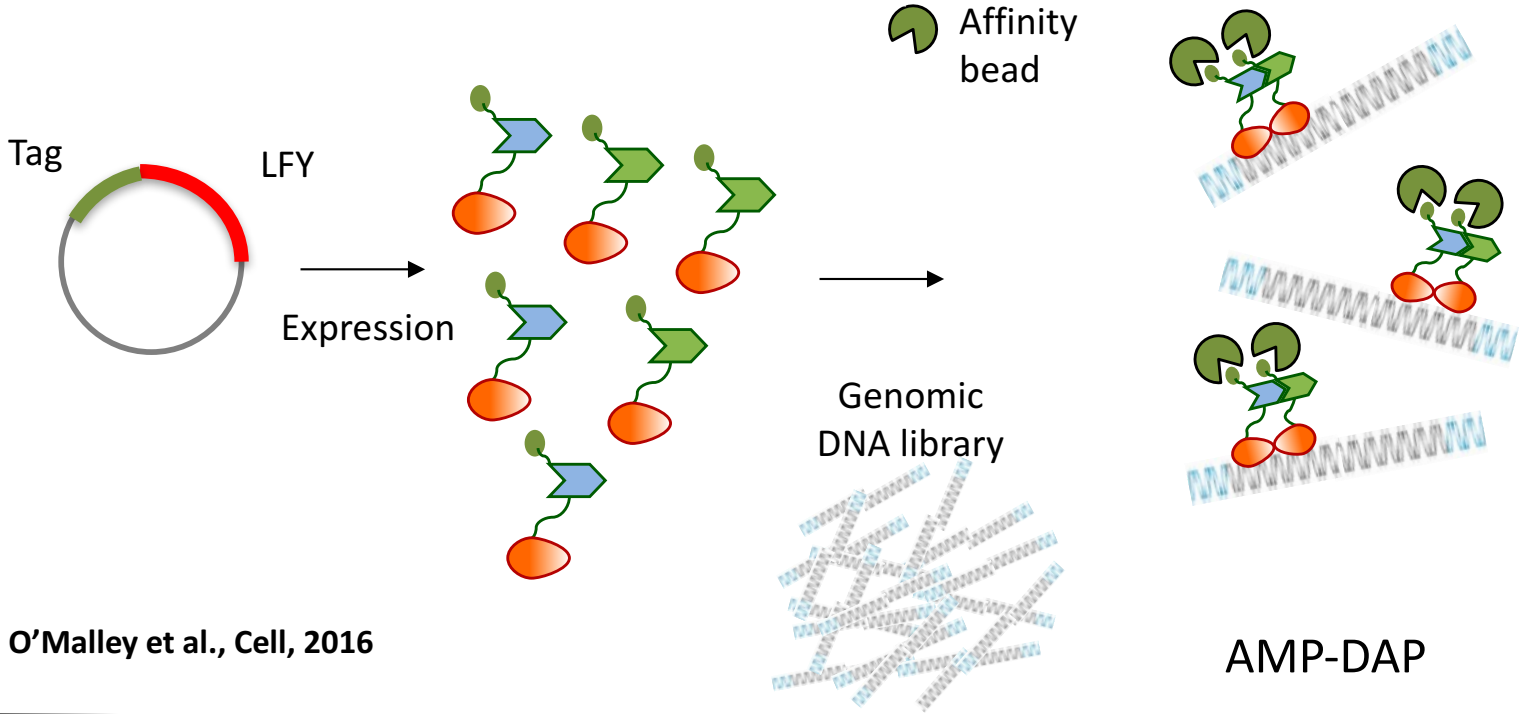
ETONNANTS POINTS COMMUNS



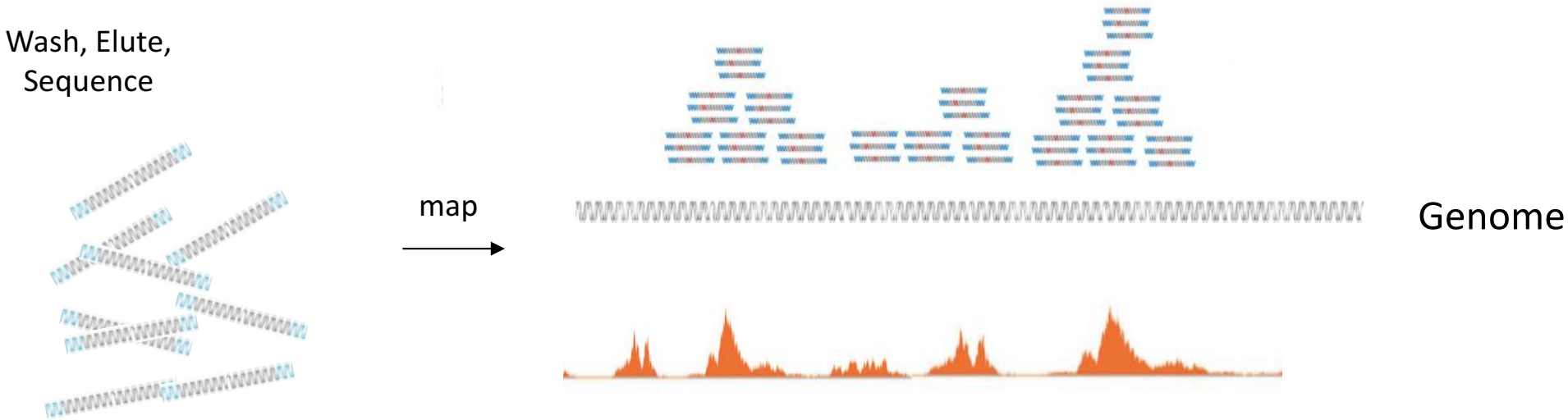
Weijers / Vernoux / Zubieta / Flo_Re teams

Denay et al. TiPS 2017

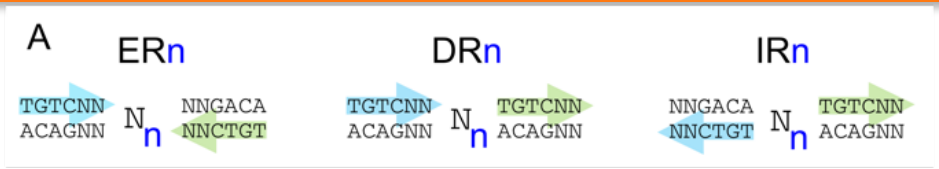
DAP-SEQ : DNA AFFINITY PURIFICATION + SEQUENCING

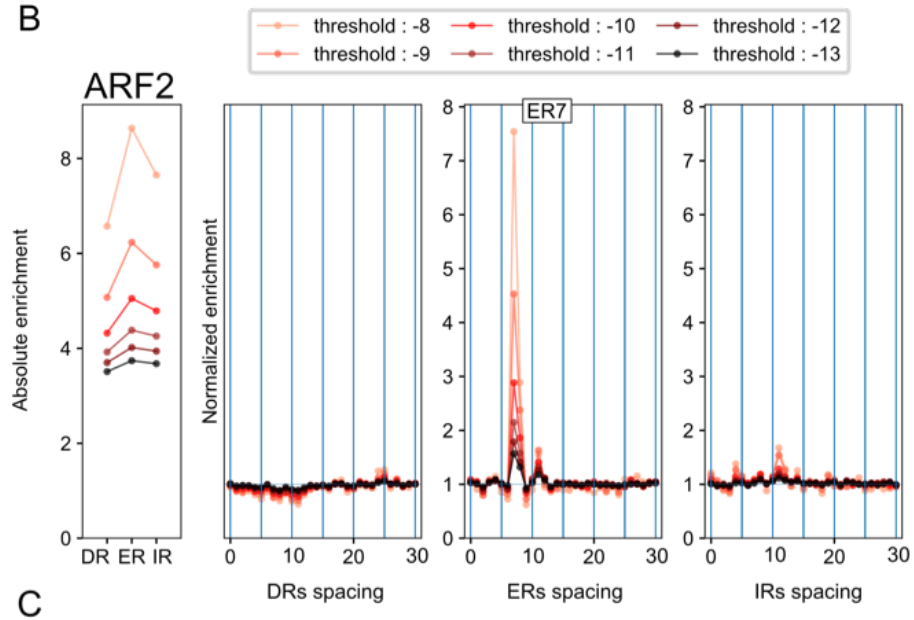


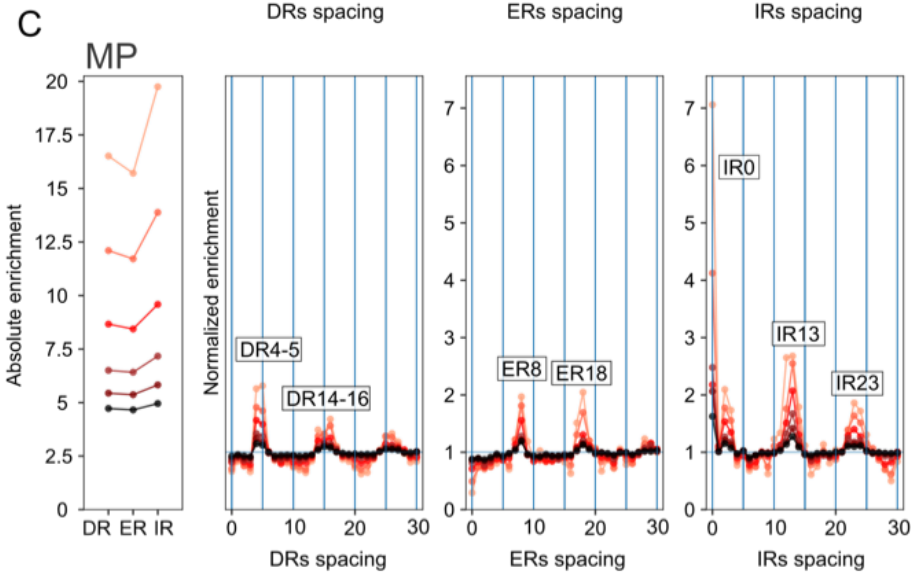
O'Malley et al., Cell, 2016

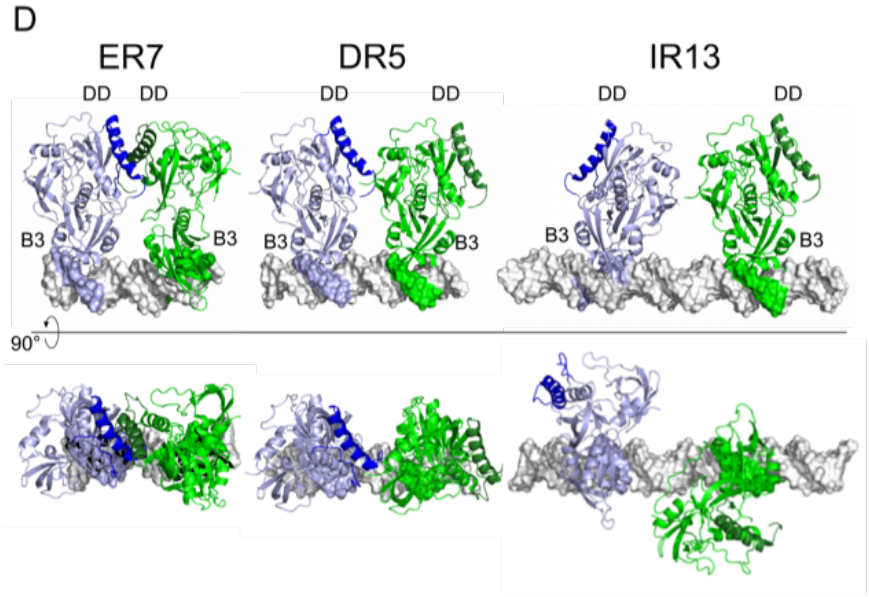


La syntaxe des ARF



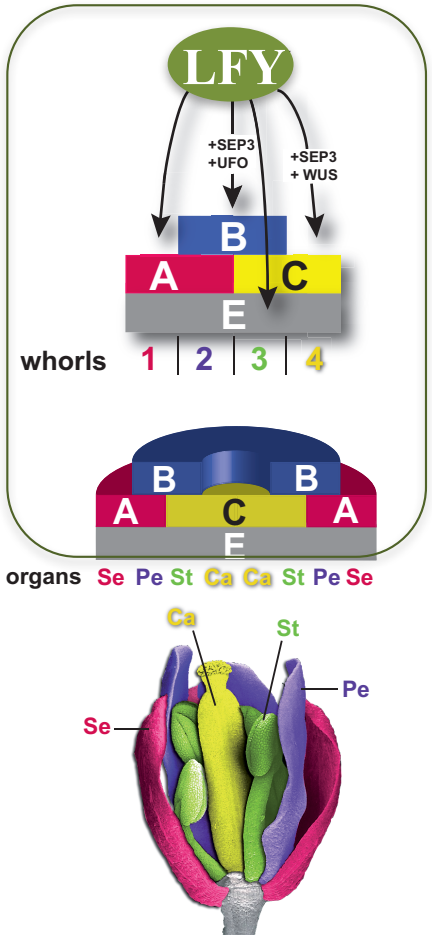




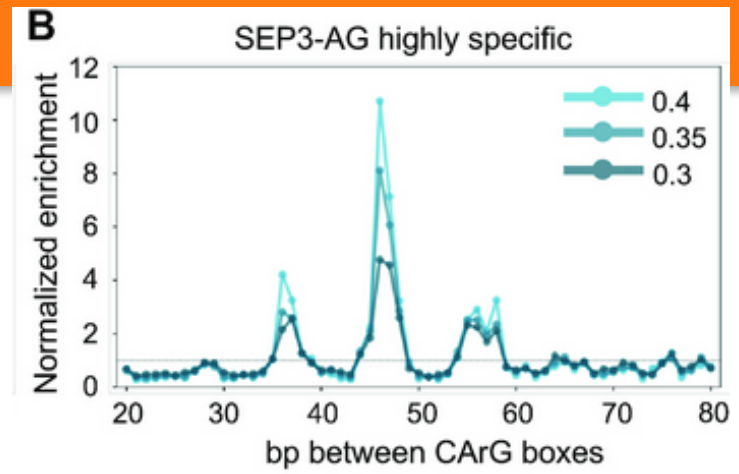


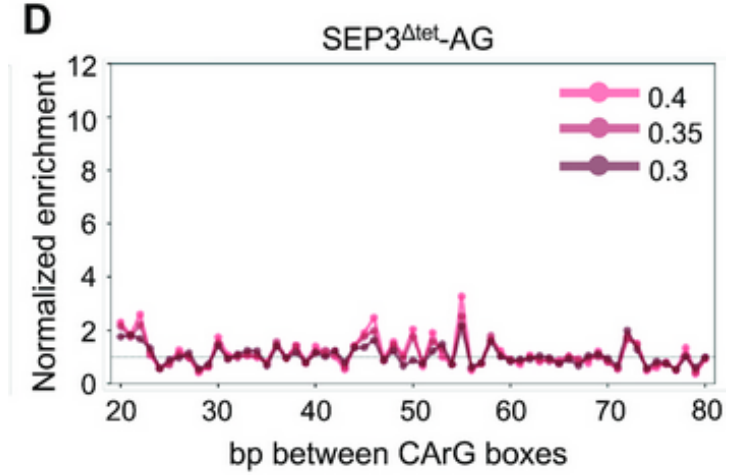
Stigliani et al. Mol Plant 2018
Lai et al. Mol Plant 2019

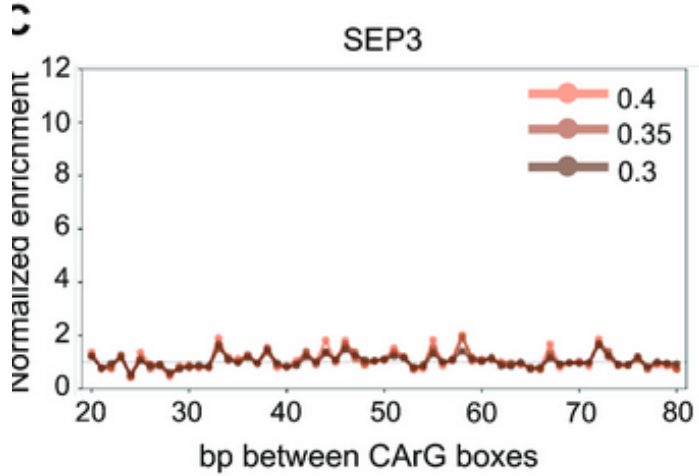
La syntaxe des MADS



Floral identity







Lai et al. NAR 2020

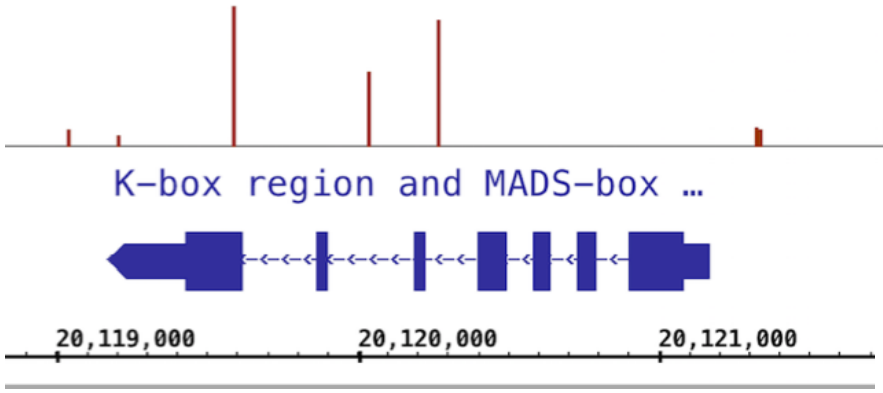
LA OÙ VA LEAFY

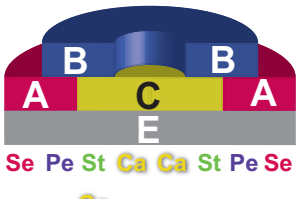
- **DAP-seq** → *In vitro*
- **ChIP-seq** → *In vivo*
- **Predicted binding sites**

LFY DAP

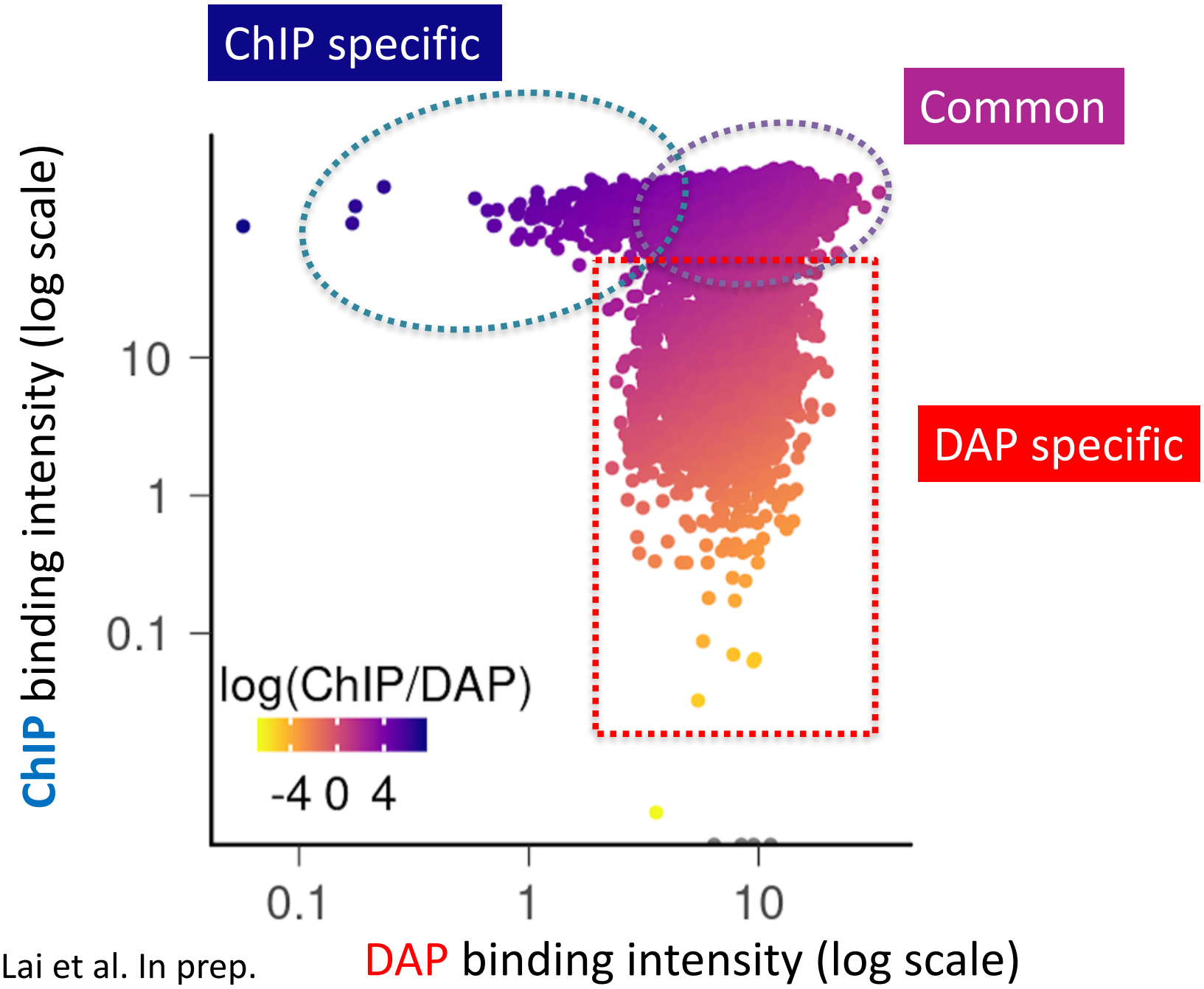
LFY ChIP

Computed
LFY binding sites



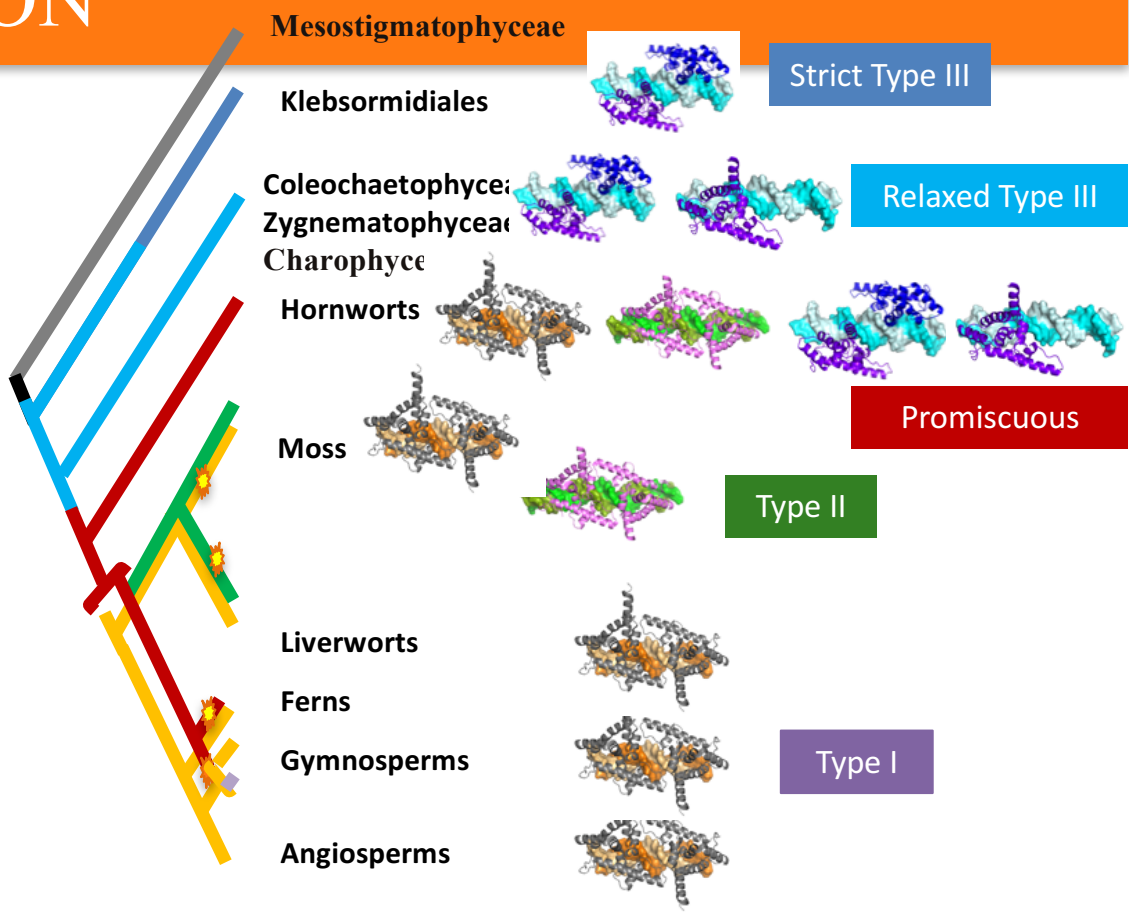


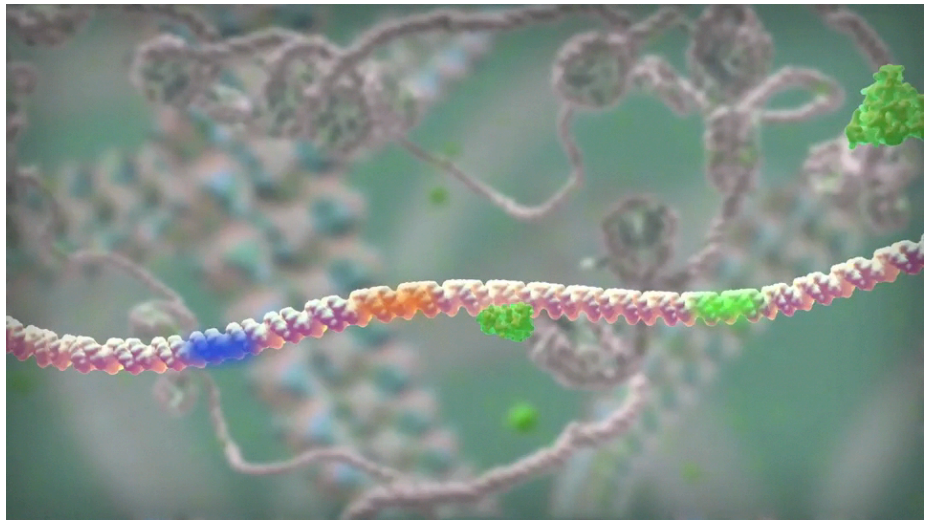
DAP-SEQ VS CHIP-SEQ



Lai et al. In prep.

EVOLUTION


Mesostigmatophyceae
Klebsormidiales
Coleochaetophycea
Zygnematophyceae
Charophyce
Hornworts
Moss
Liverworts
Ferns
Gymnosperms
Angiosperms
Strict Type III
Relaxed Type III
Promiscuous
Type II
Type I



MERCI JEAN GUERN

- Merci pour l'accueil dans le DEA Biologie du Développement des Plantes
- Merci pour la transmission
- Merci pour l'écoute