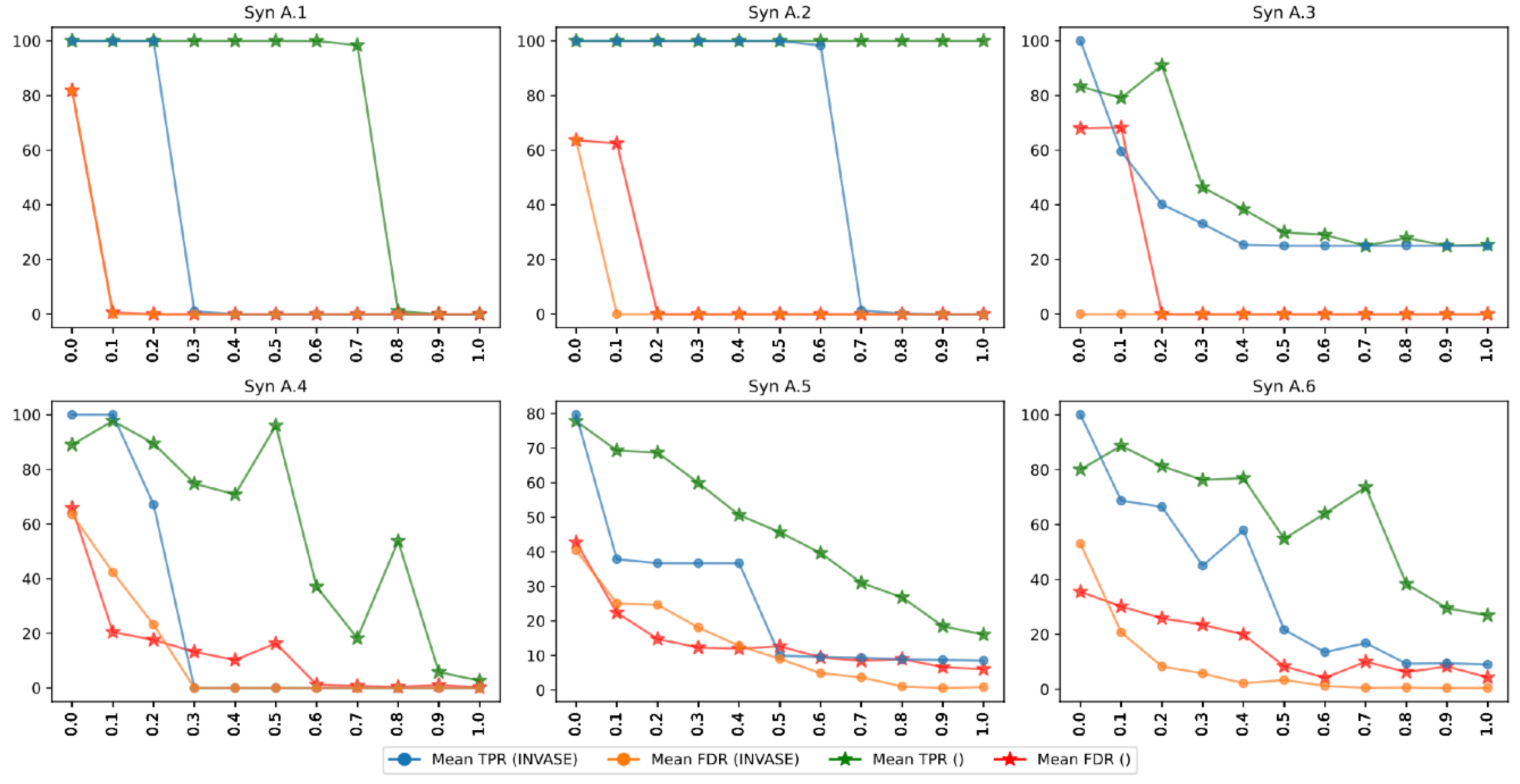
Exploration of Potential Improvements to INVASE

Application of Direct Replacement Version Loss



Individual Settings: **Activation**: Choose between SeLU and ReLU to determine which yields better results. (*INVASE*: A.1–A.5 use ReLU, A.6 uses SeLU; Proposed: A.1–A.3 use ReLU, A.4–A.6 use SeLU.); **Policy**: Early Stopping Policy ($\delta = 0.3\%$, patience $T = 5$).

✦ Enhance both **sensitivity** & **feature selection** performance (e.g., TPR, FDR)

- Syn A.1, A.2:
  - Broader range of ideal tunning range
- Syn A.3 - A.6:
  - Similar performance on FDR
  - Obvious better performance on TPR

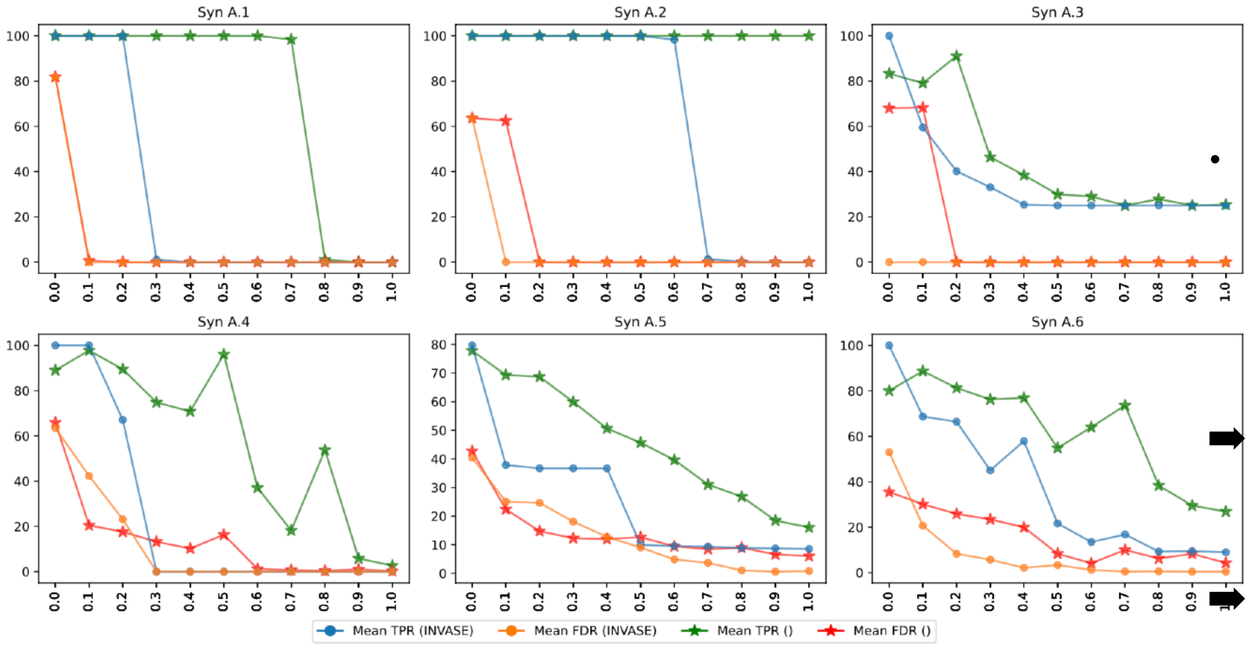
➡ Provide a broader range of well-performing configurations

➡ Reduce the risk of drastic performance drops due to minor hyperparameter changes

➡ More stable and user-friendly

Exploration of Potential Improvements to INVASE

Application of Direct Replacement Version Loss



Individual Settings: **Activation**: Choose between SeLU and ReLU to determine which yields better results. (*INVASE*: A.1–A.5 use ReLU, A.6 uses SeLU; Proposed: A.1–A.3 use ReLU, A.4–A.6 use SeLU.); **Policy**: Early Stopping Policy ($\delta = 0.3\%$, patience $T = 5$).

✦ Enhance both **sensitivity** & **feature selection** performance (e.g., TPR, FDR)

- Syn A.1, A.2:
  - Broader range of ideal tunning range
- Syn A.3 - A.6:
  - Similar performance on FDR
  - Obvious better performance on TPR

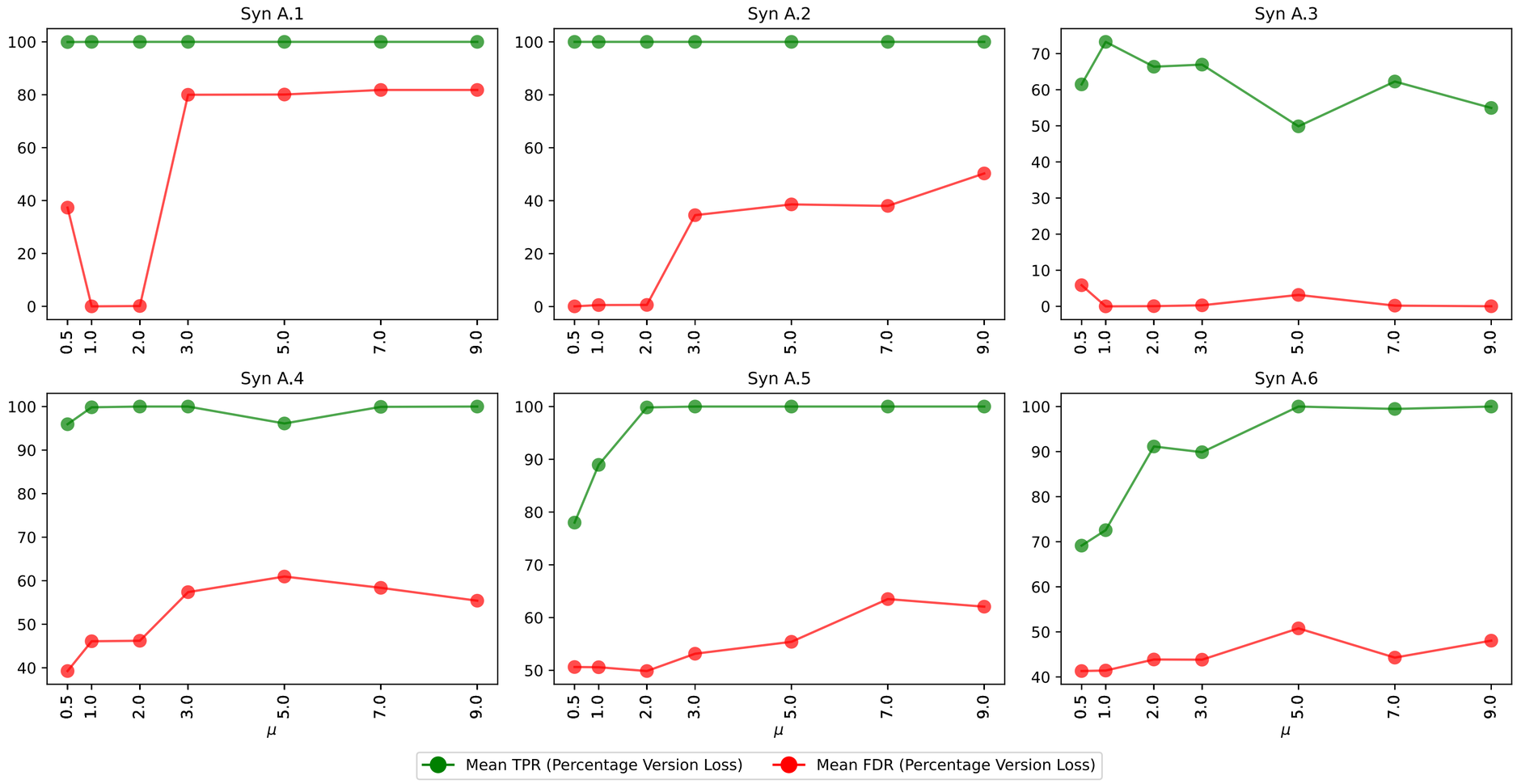
➡ Provide a broader range of well-performing configurations

➡ Reduce the risk of drastic performance drops due to minor hyperparameter changes

➡ More stable and user-friendly

Exploration of Potential Improvements to INVASE

Application of Percentage Version Loss



Individual Settings: **Activation**: ReLU; **Policy**: Post-Training Selection Policy ($I = 10k$, $m = 100$, $r = 500$, $k = 7$)