

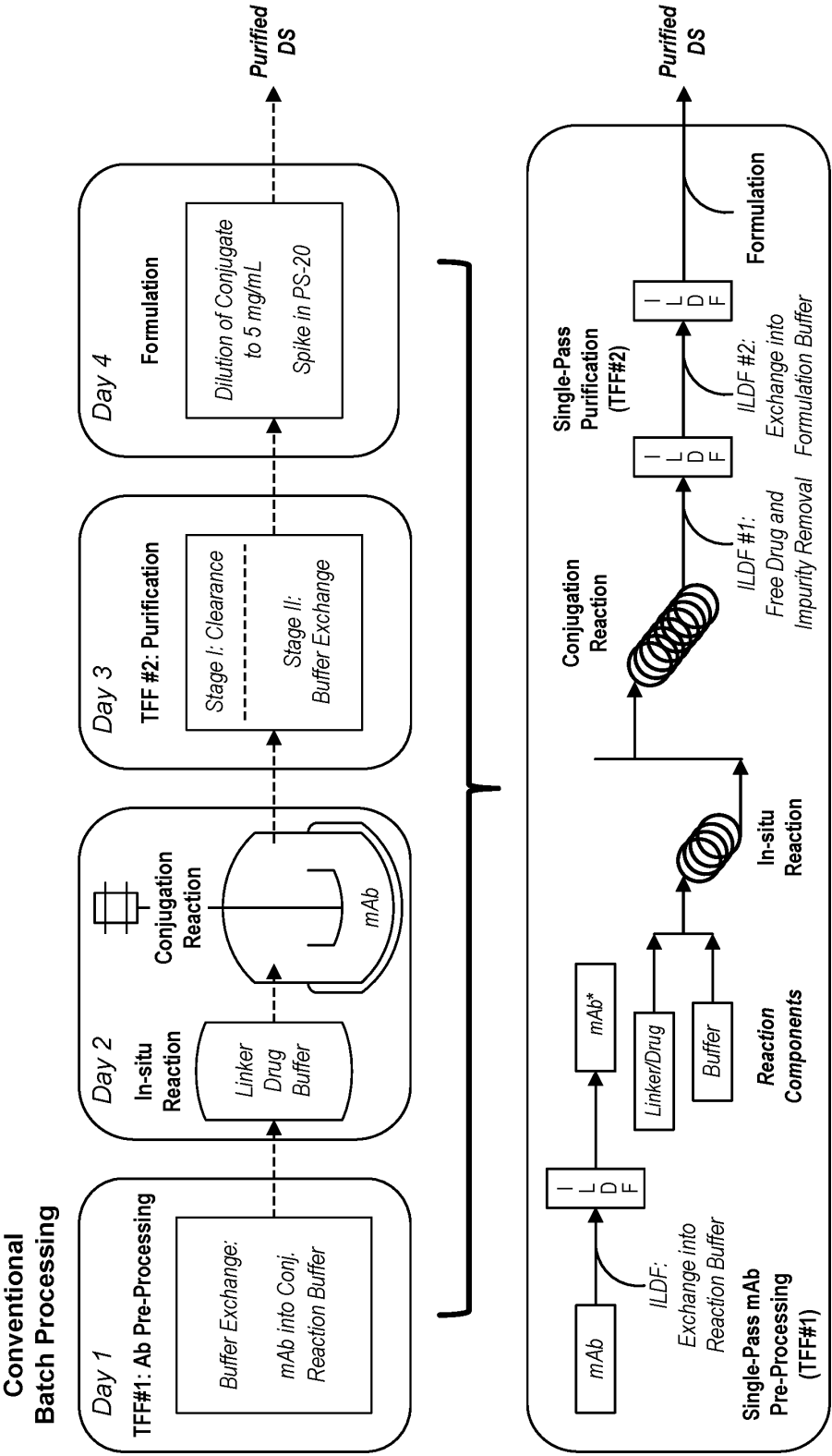


FIG. 1

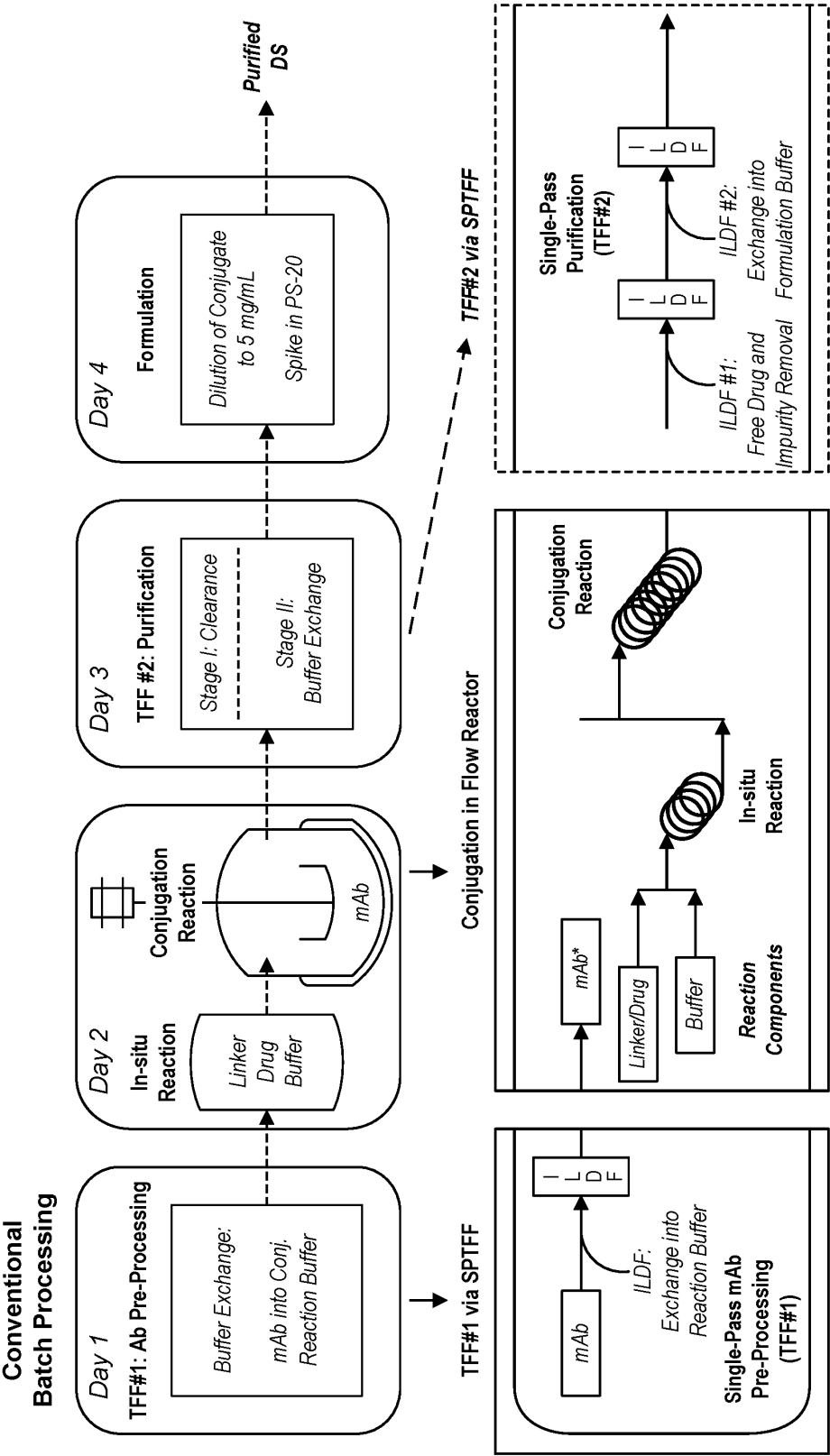


FIG. 2

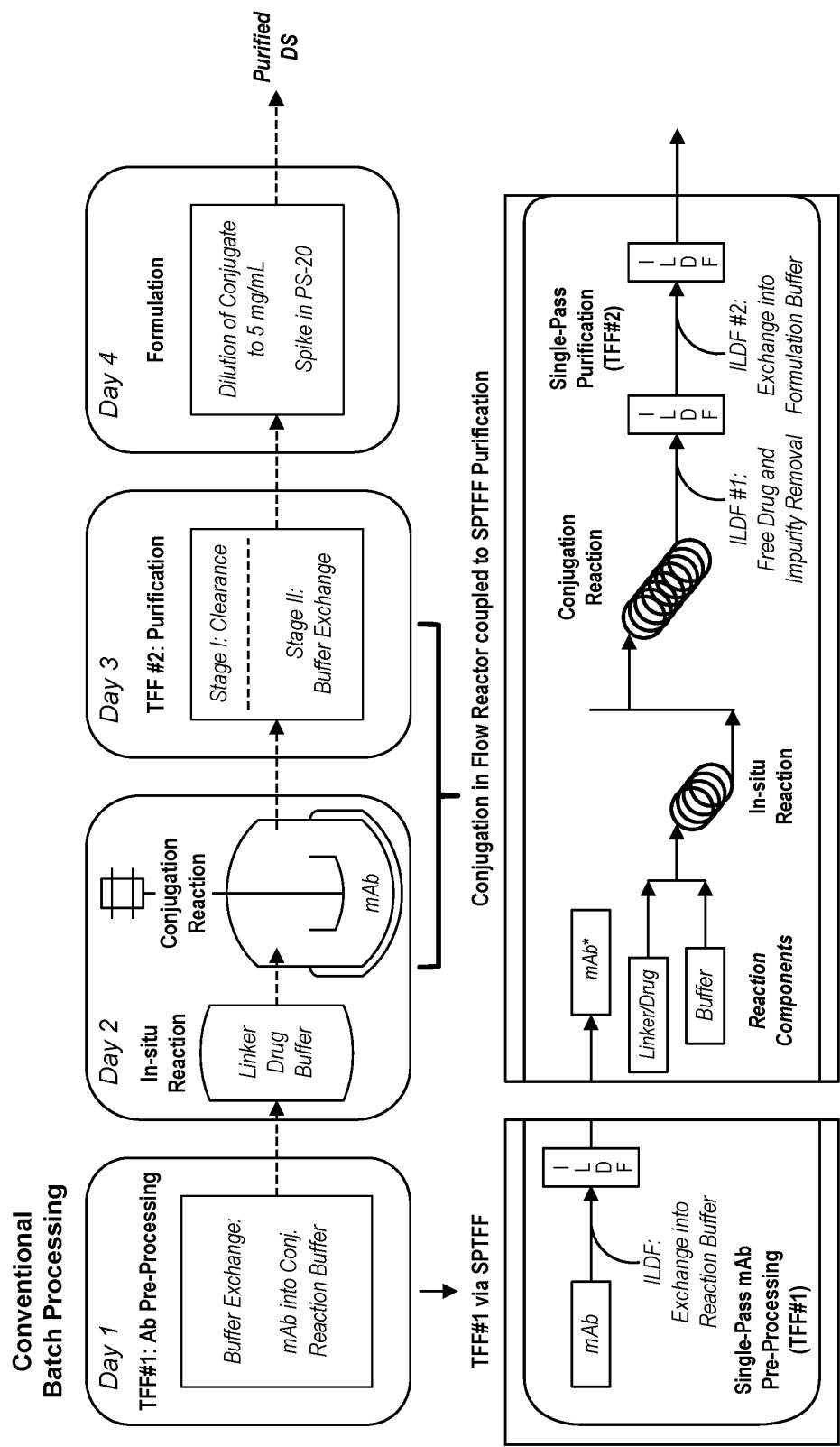


FIG. 3

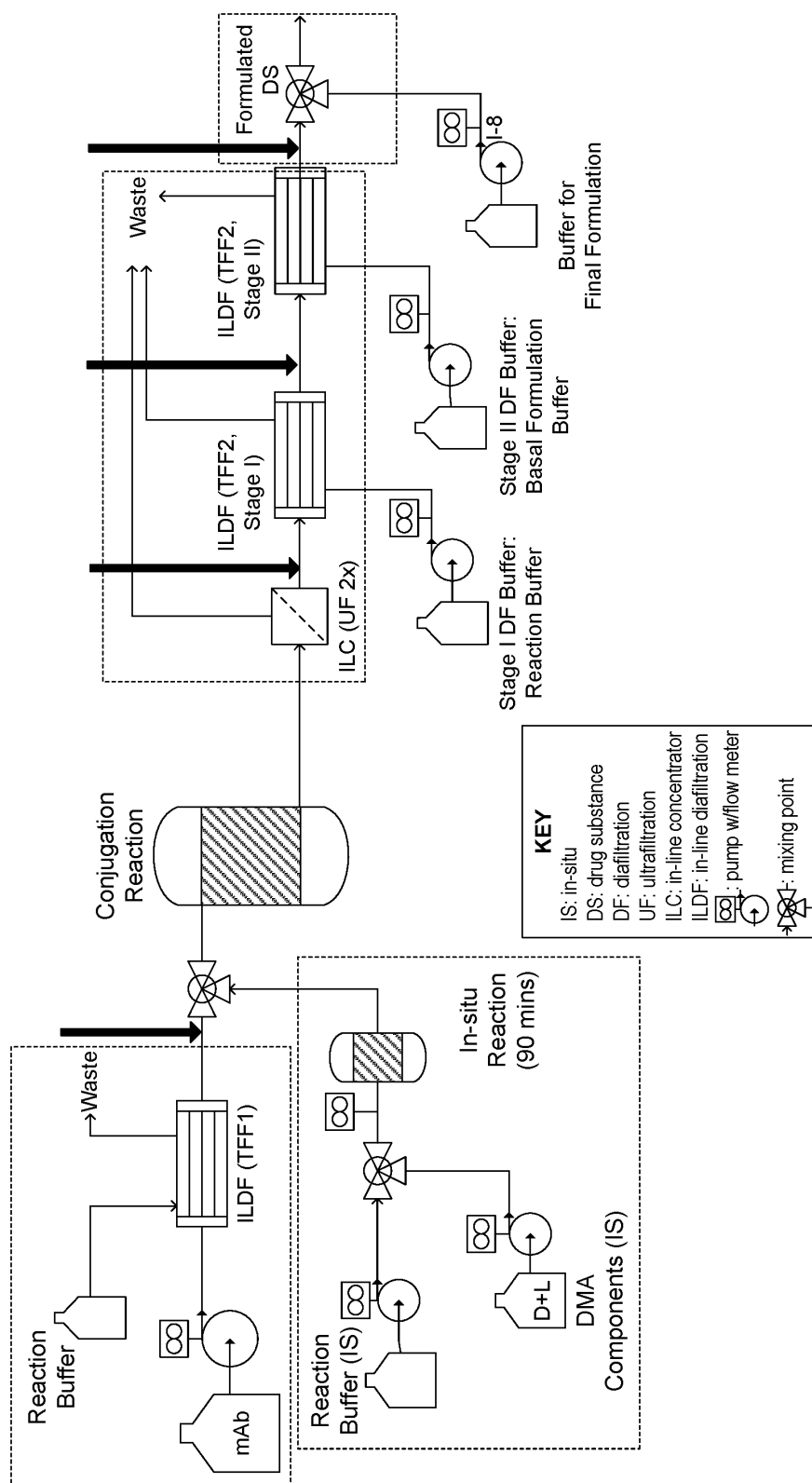


**FIG. 4**

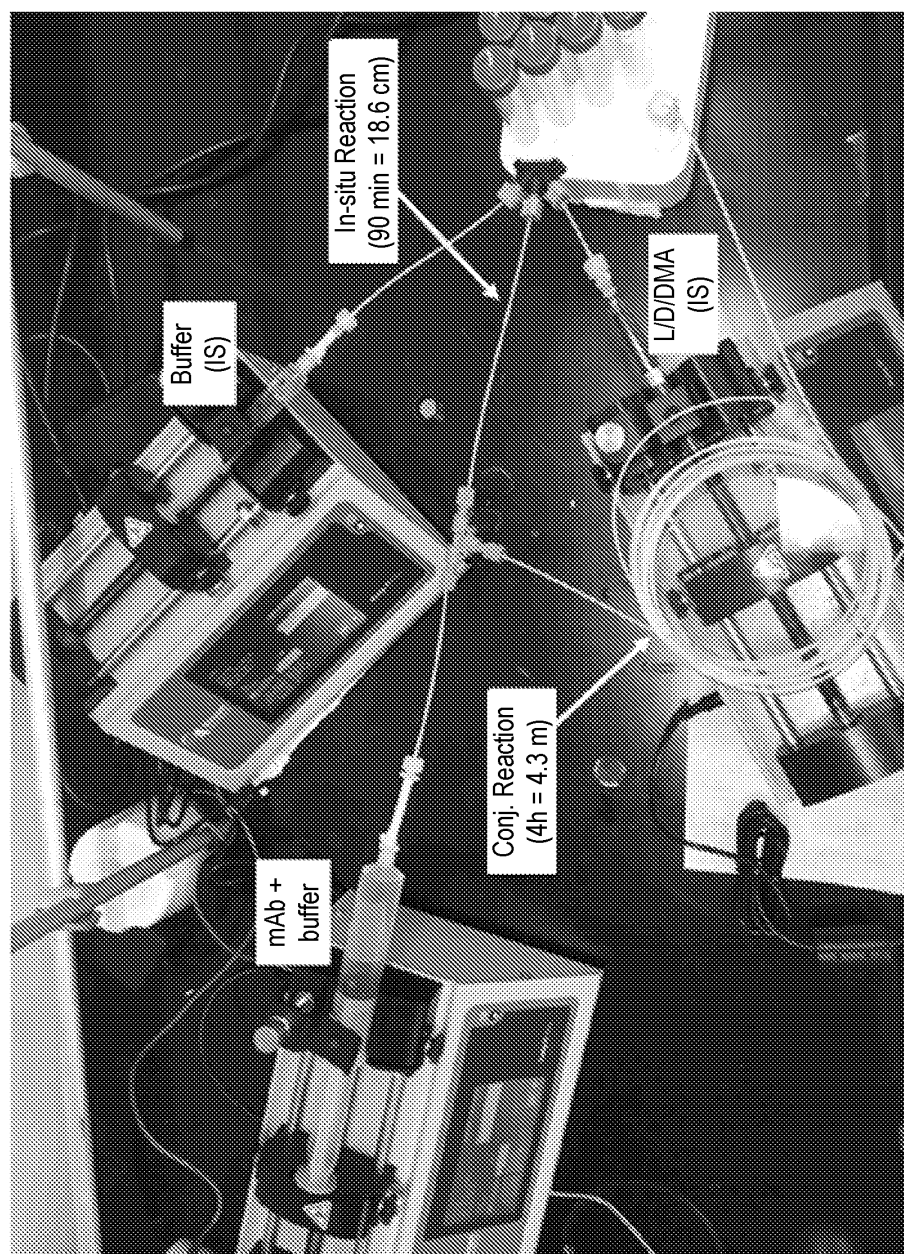


FIG. 5

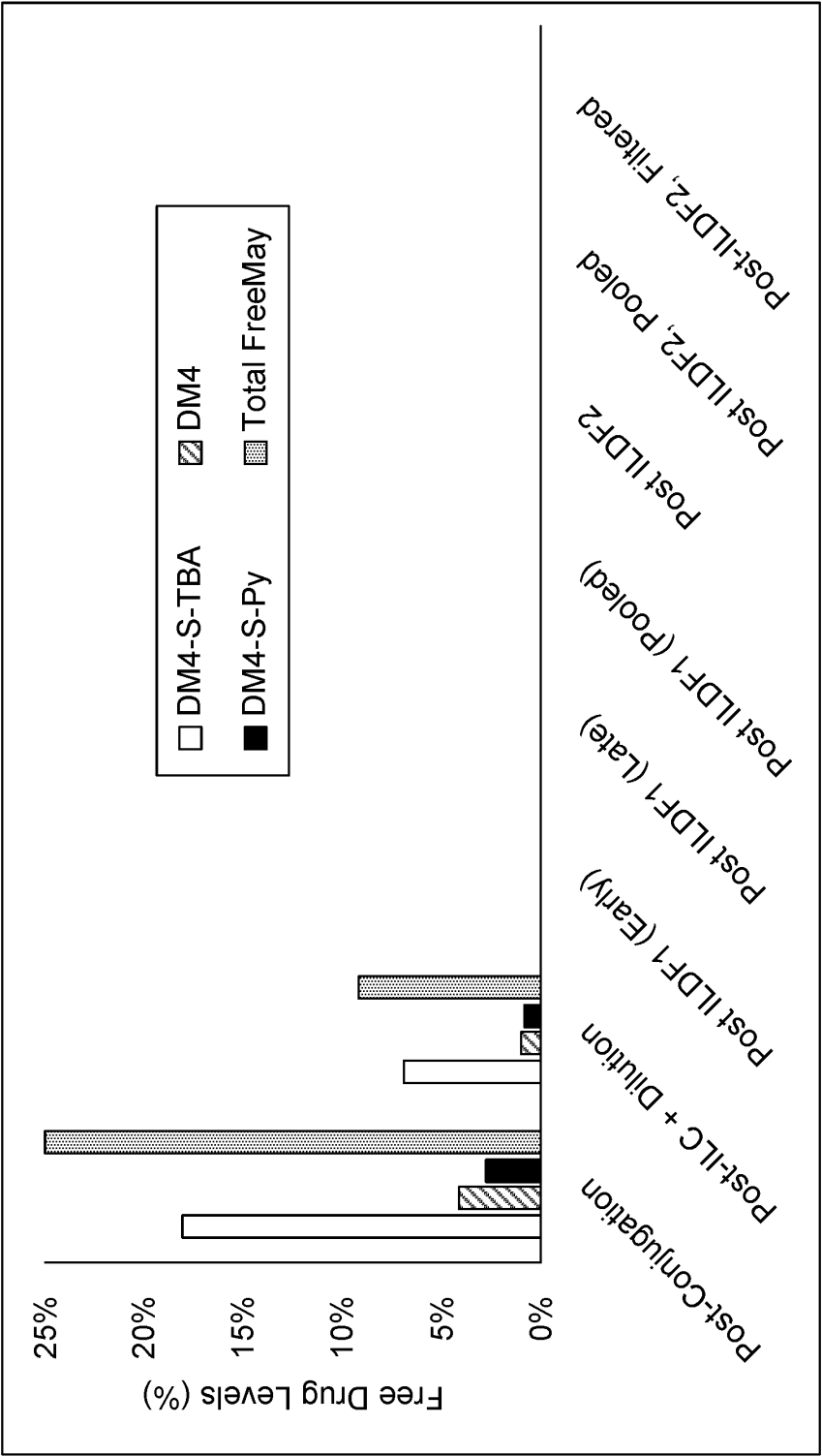


FIG. 6

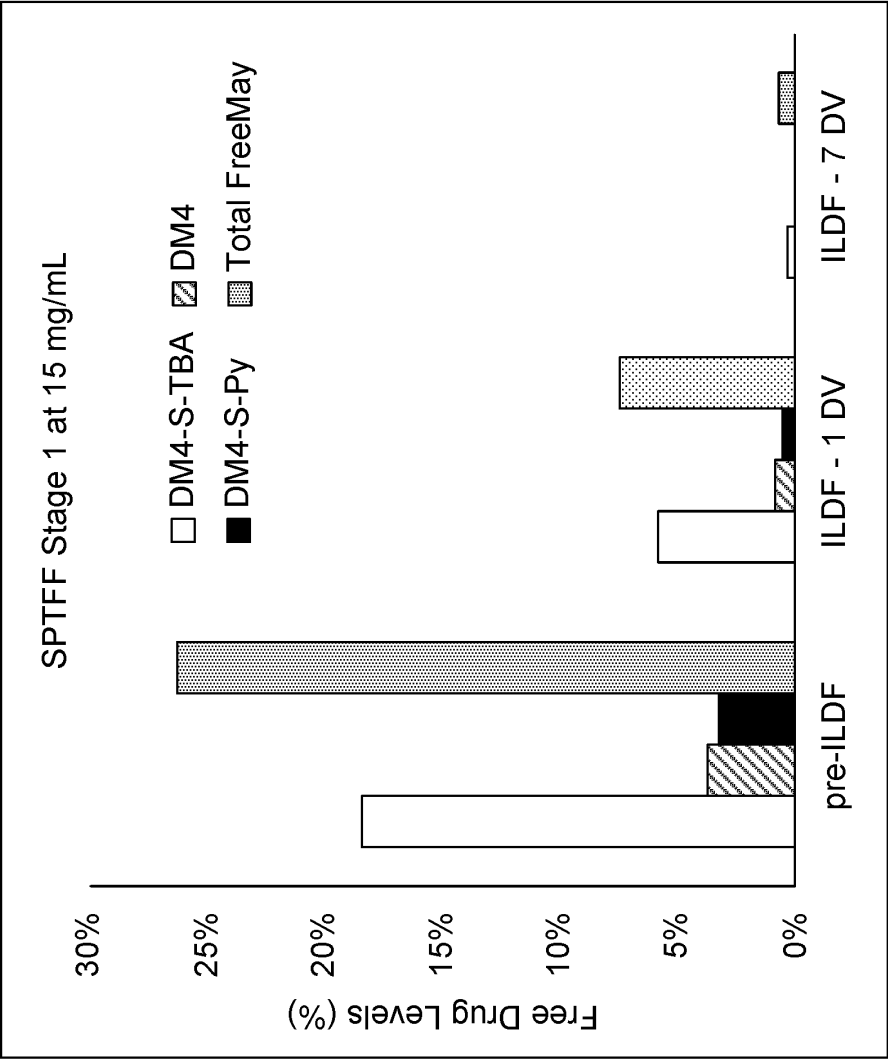


FIG. 7

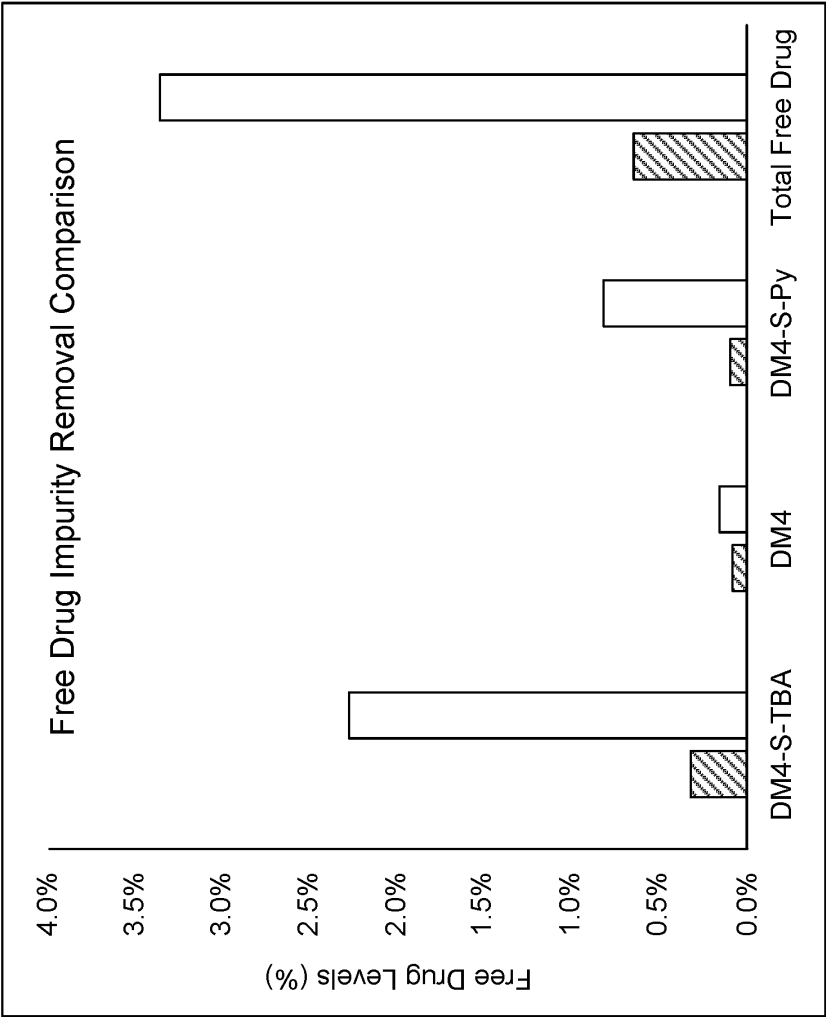


FIG. 8

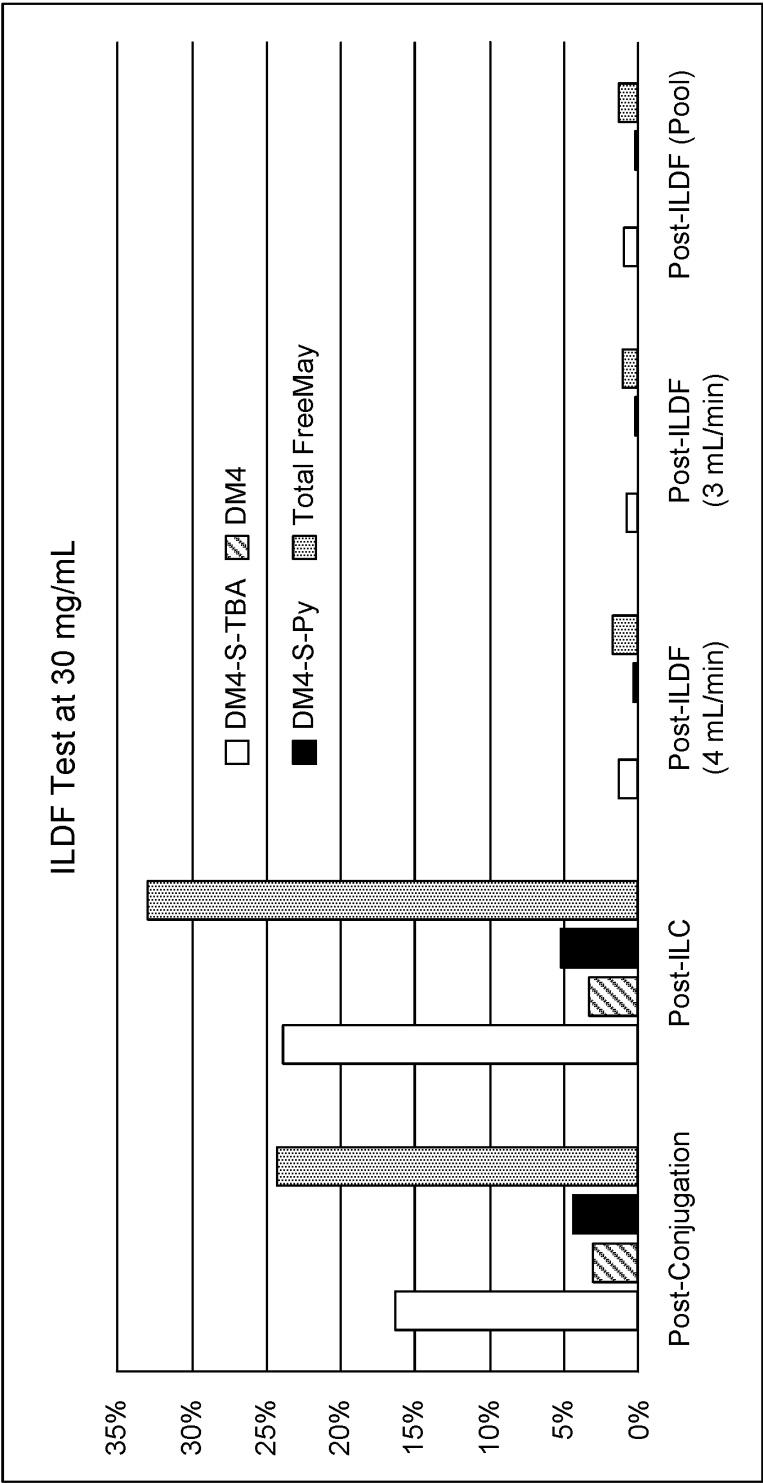


FIG. 9

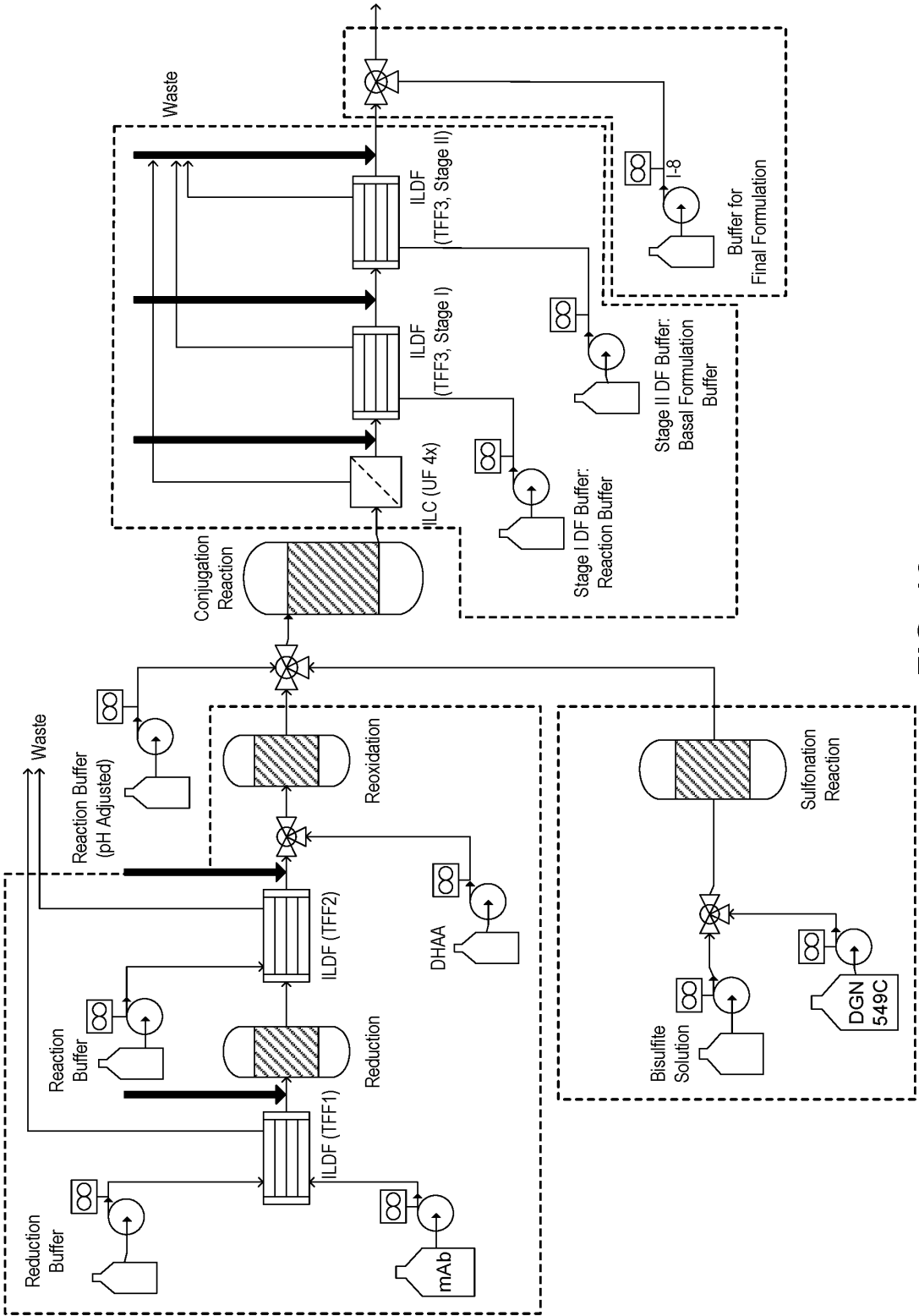


FIG. 10

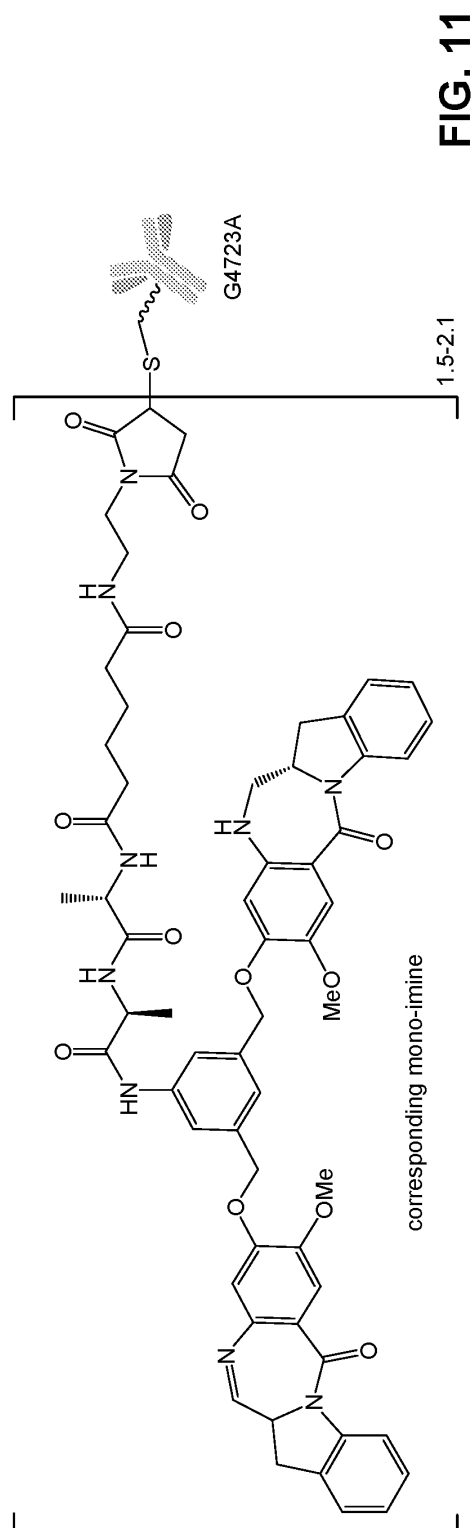
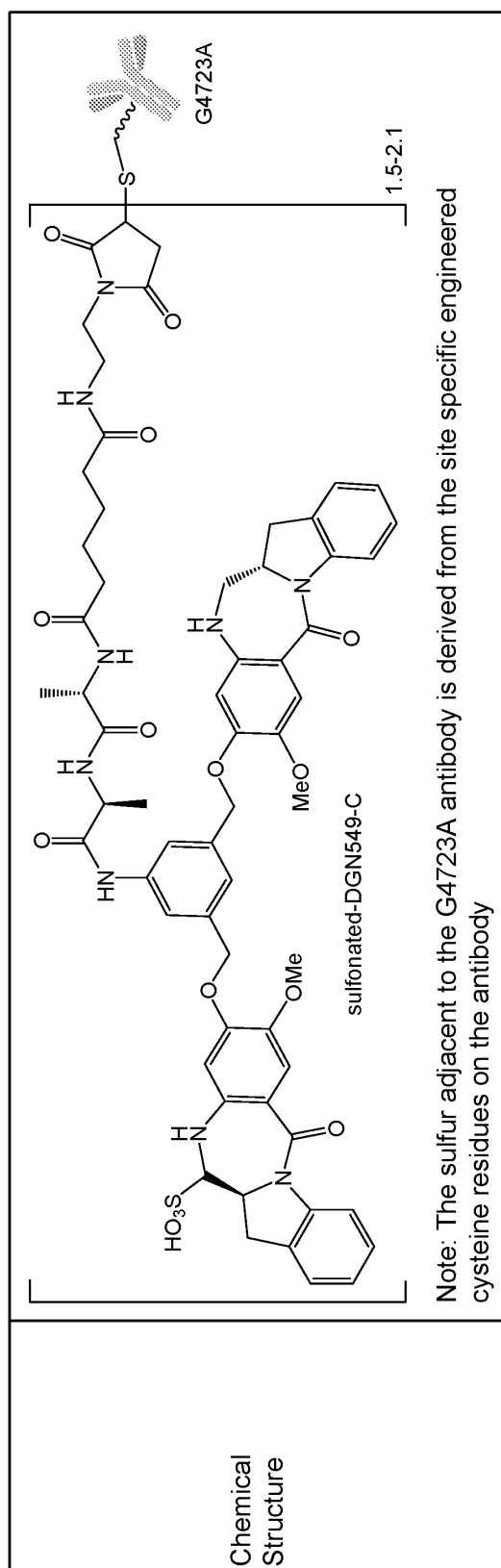
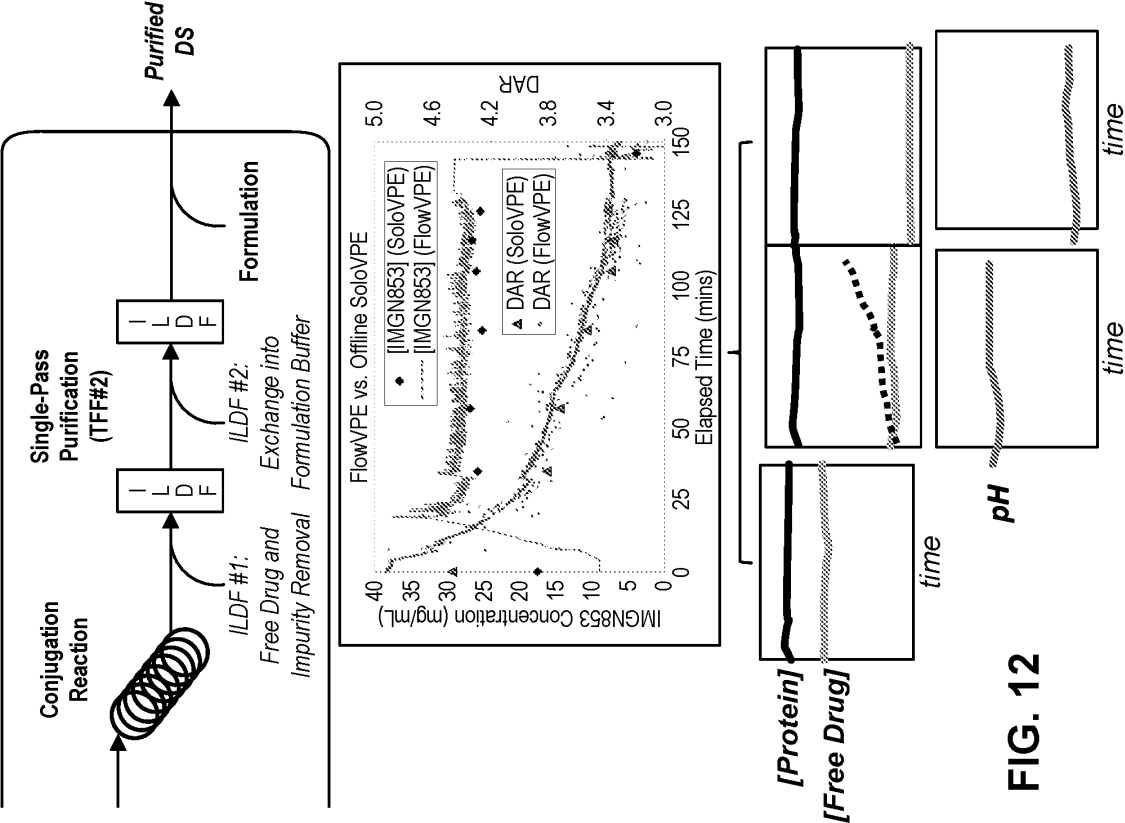


FIG. 11

- Changes during steady-state operation used to detect issues before product quality is impacted
- Ensure robust process performance across individual unit operations with multiple PAT modules used in combination
  - TFF: FlowVPE, UV sensors, pH meter, conductivity meter, pressure sensors, and flow meters

1. Post-Conjugation feed: protein concentration at expected reaction concentration with high free drug levels
2. Stage I: Diafiltration against reaction buffer at pH 7.6, Free drug drops and [Protein] remains constant, pH high
3. Stage II: Diafiltration against formulation buffer at pH 5.0, [Protein] remains constant, slight drop in Free Drug, and pH drops to ensure buffer-exchange



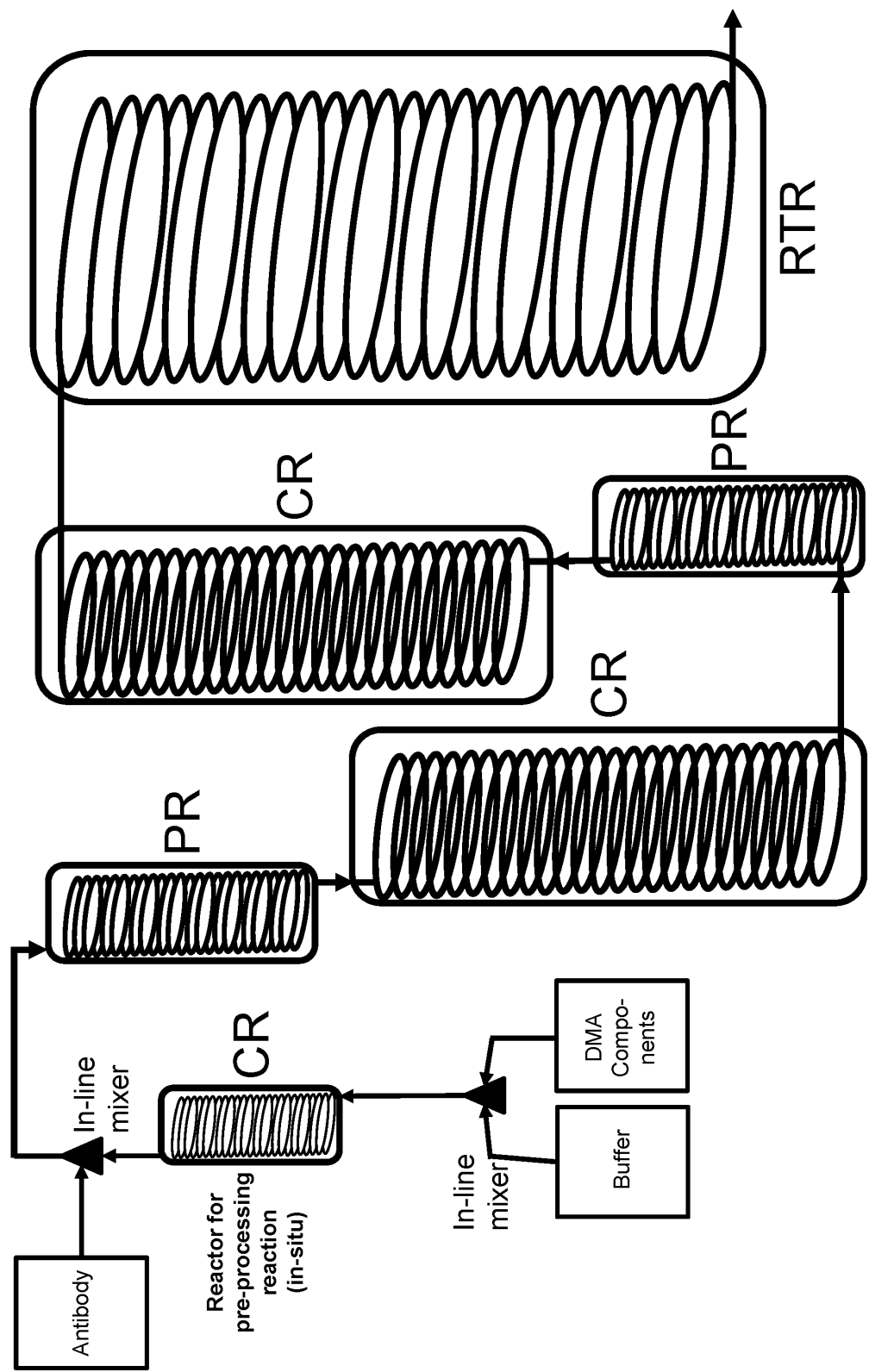


FIG. 13

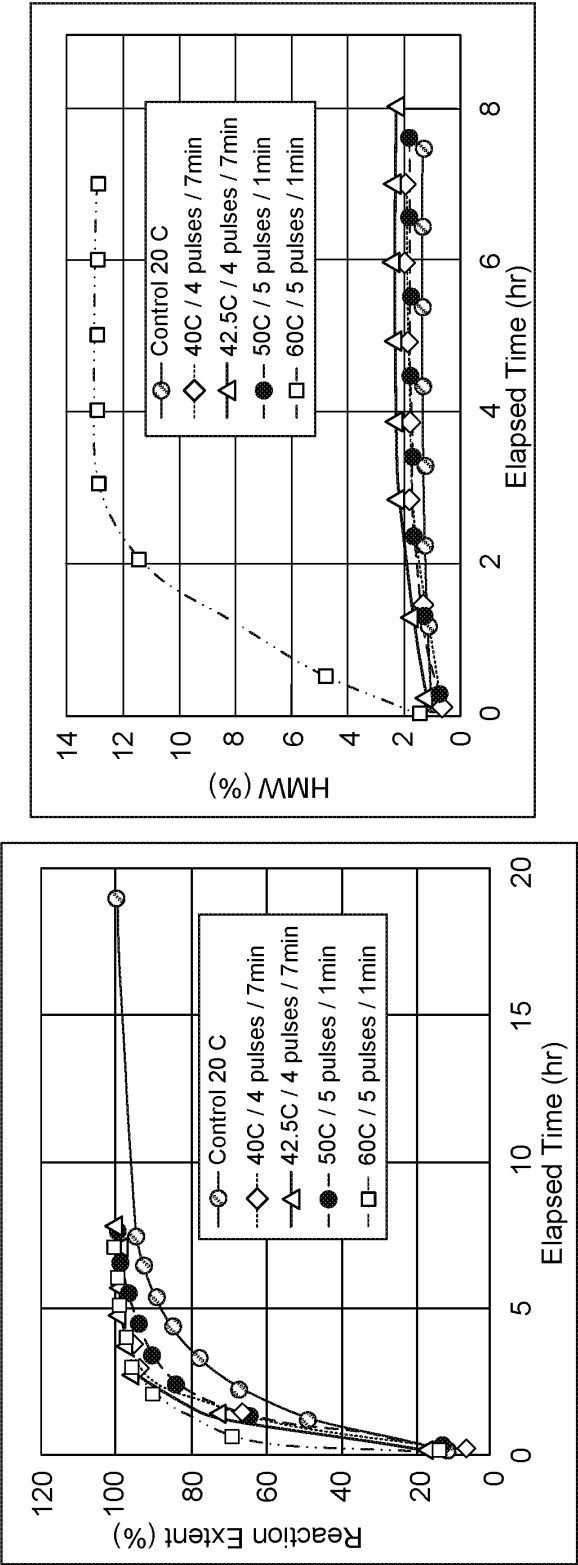


FIG. 14