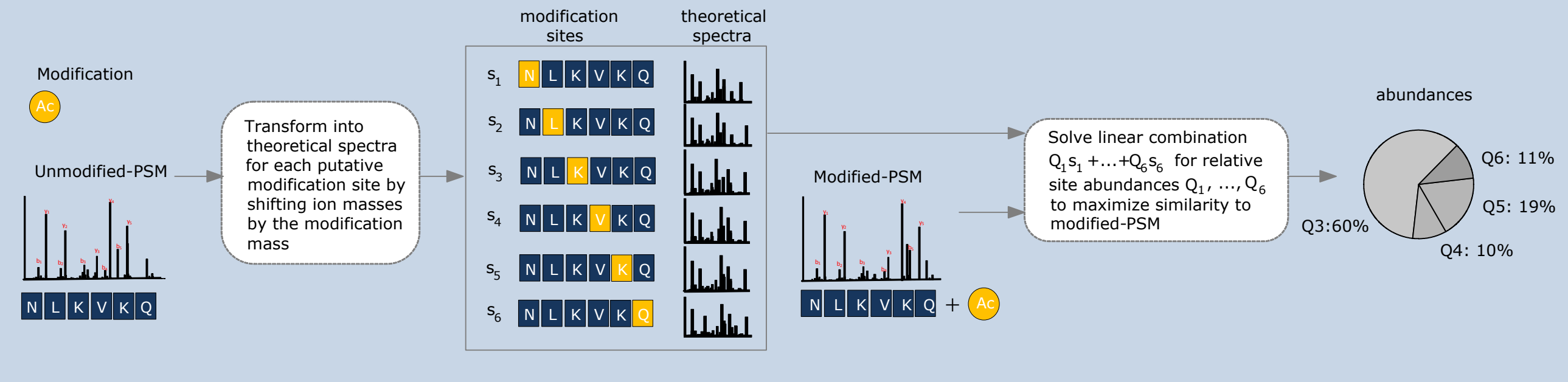
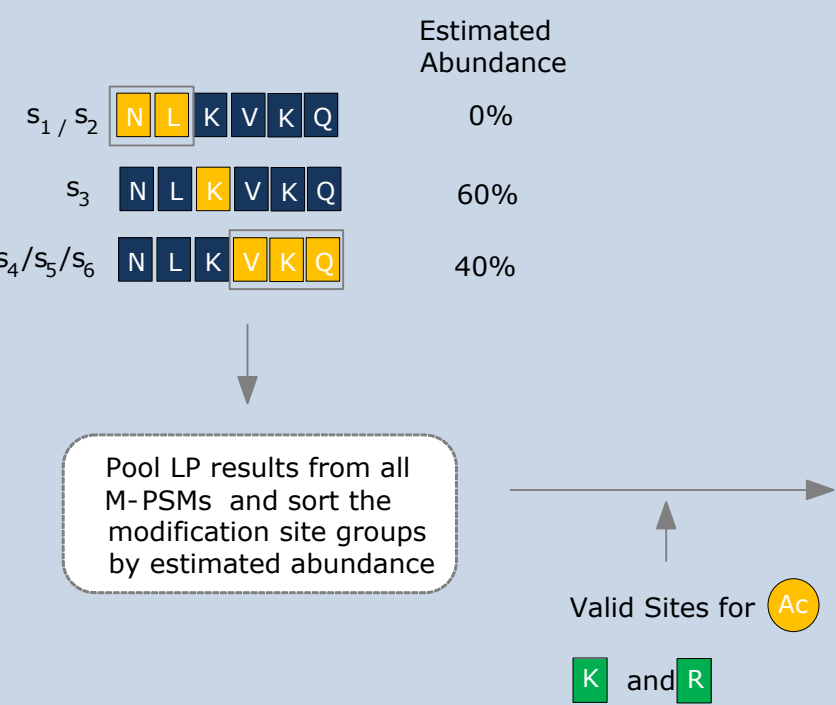


(a1) Scoring Modification Sites



(a2) Grouping Indistinguishable Modification Sites



(b1) Estimating False Localization Rate (FLR)

	Estimated Abundance	Target/Decoy
T K K V D A E F A	90%	✓
⋮	⋮	⋮
G R D P D I E N	60%	✓
N L K V K Q	60%	✓
⋮	⋮	⋮
G R D P D I E N	40%	✗
N L K V K Q	40%	✓
T K K V D A E F A	10%	✗
N L K V K Q	0%	✗

5% FLR threshold

(b2) PTM Site Assignment at a chosen FLR

Unambiguous site	G R D P D K E N
Partially localized site	N K K V K Q
Ambiguous site	T K K V D A E F A
Not localized	T K K V D A E F A
Co-elution	N L K V K Q and N L K V K Q