

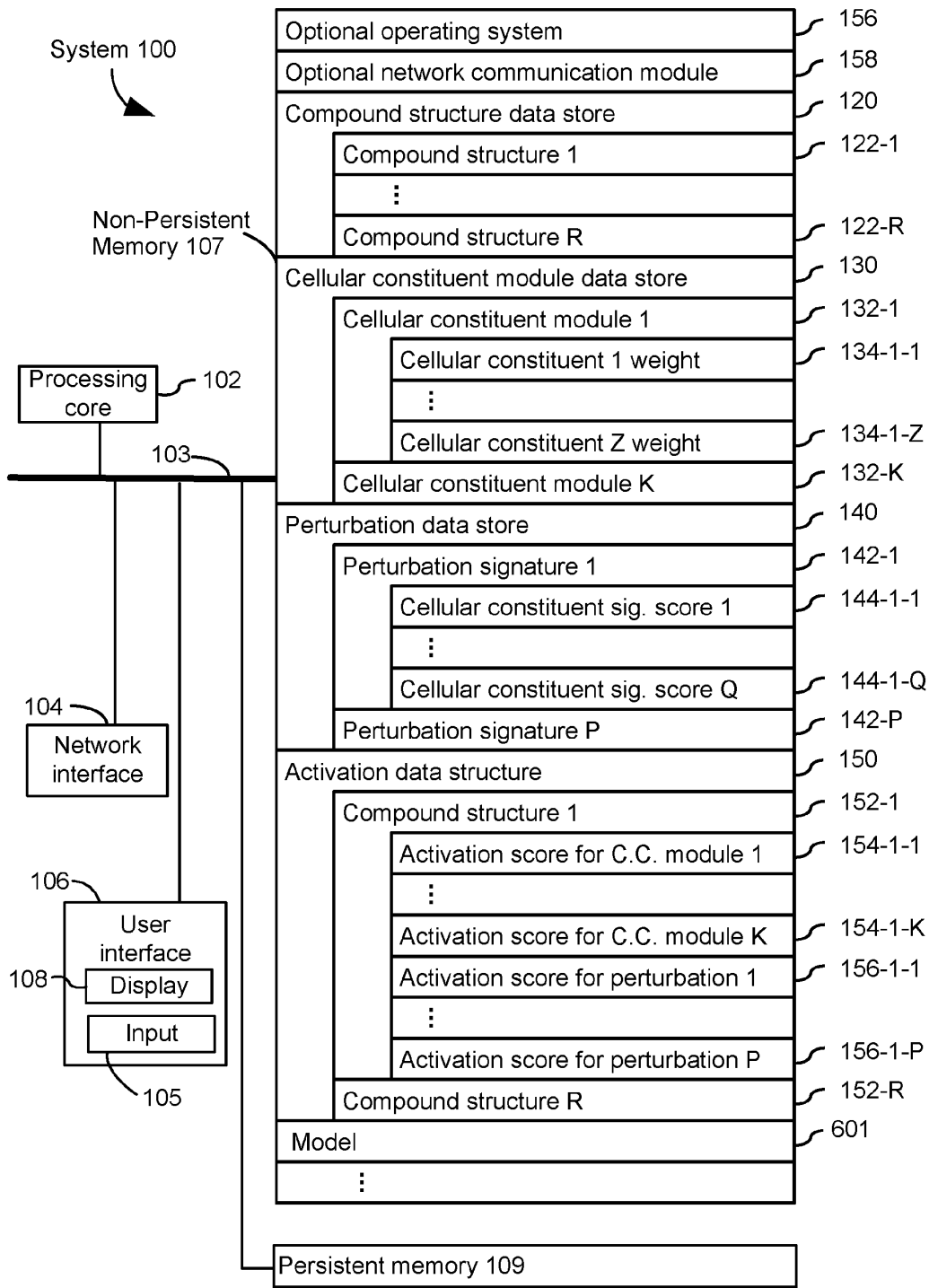


Figure 1

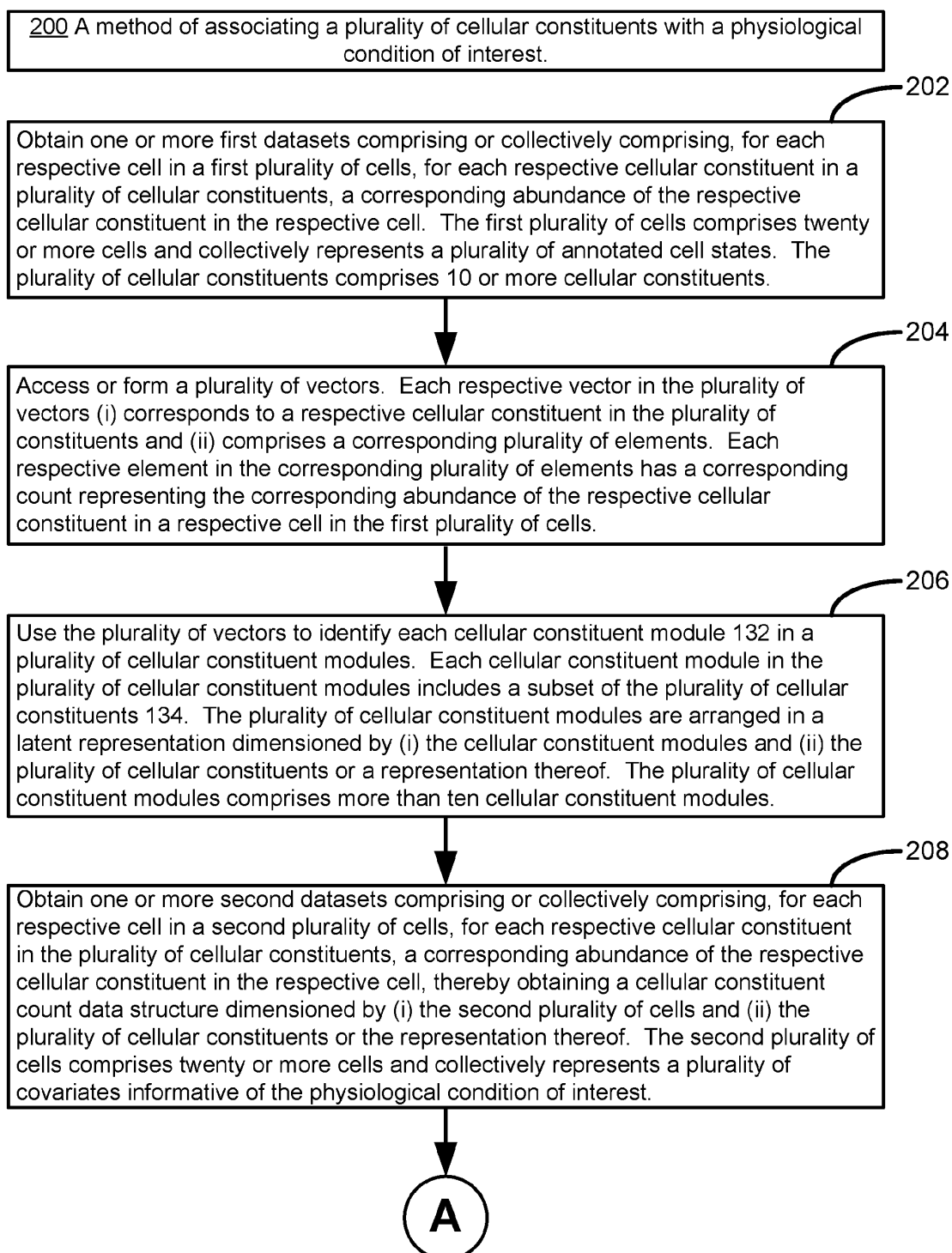
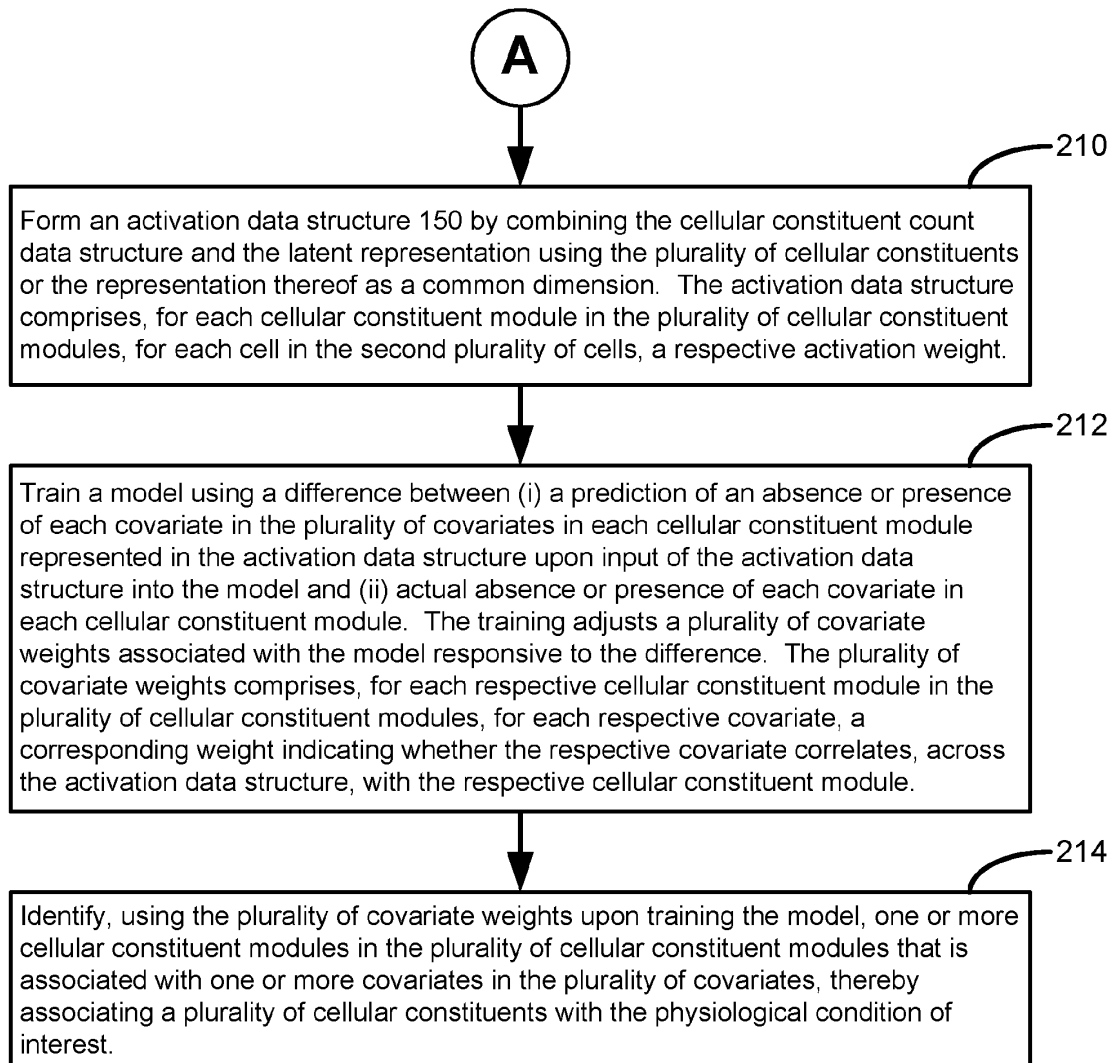


Figure 2A

**Figure 2B**

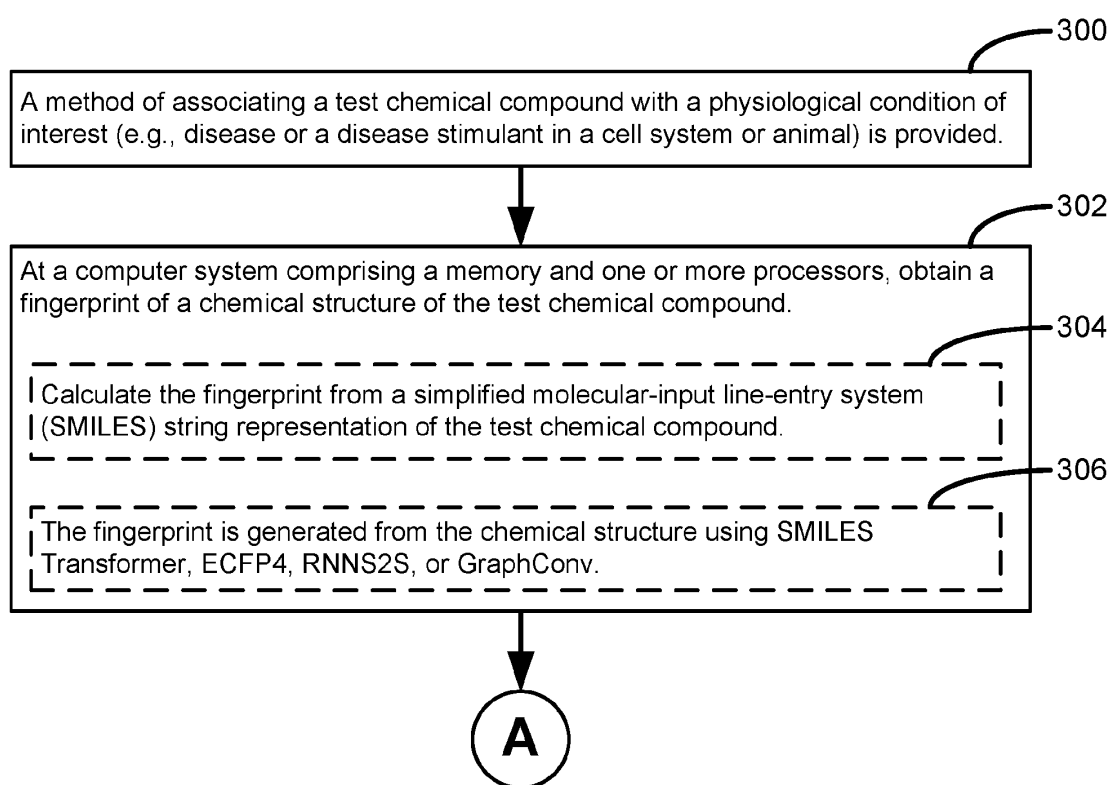


Figure 3A

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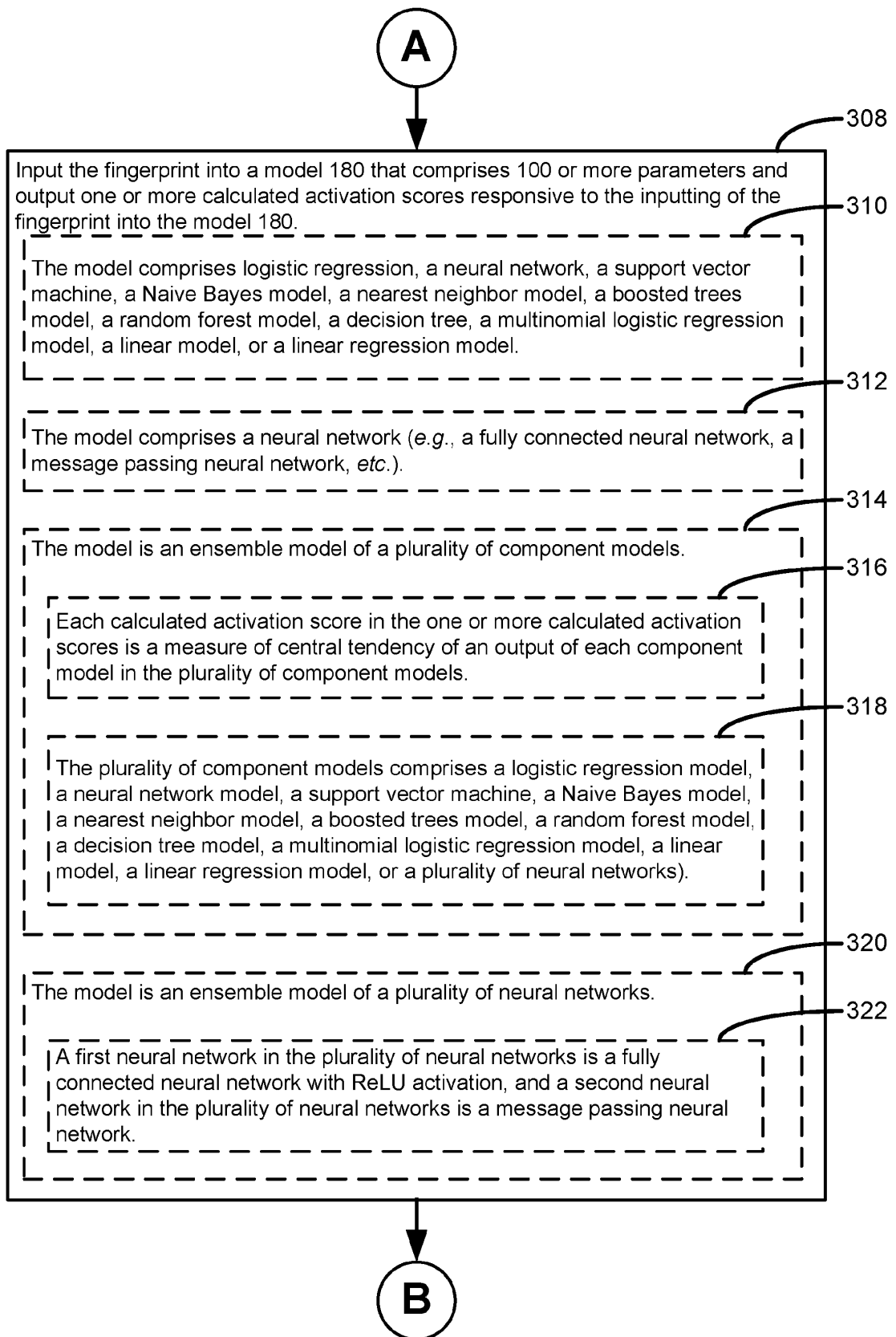
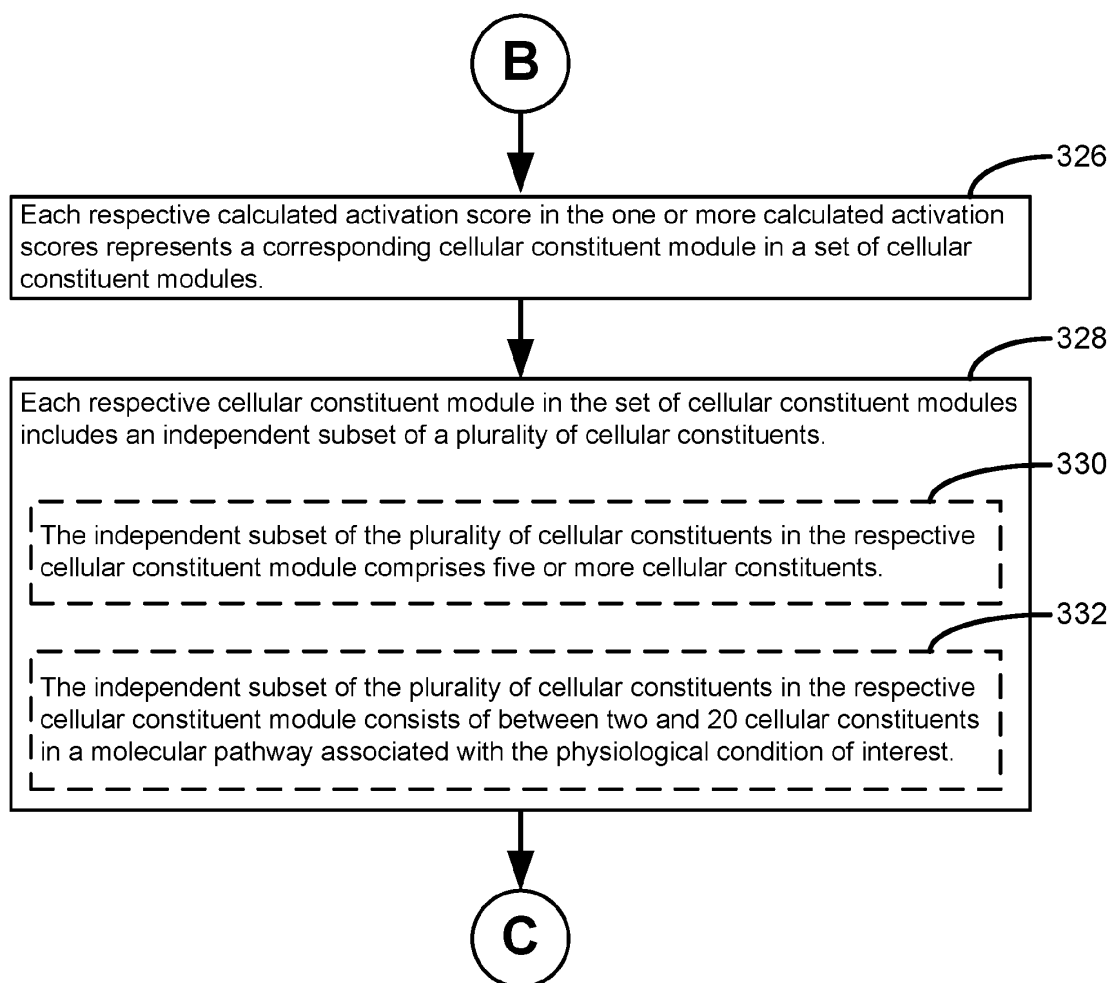


Figure 3B

**Figure 3C**

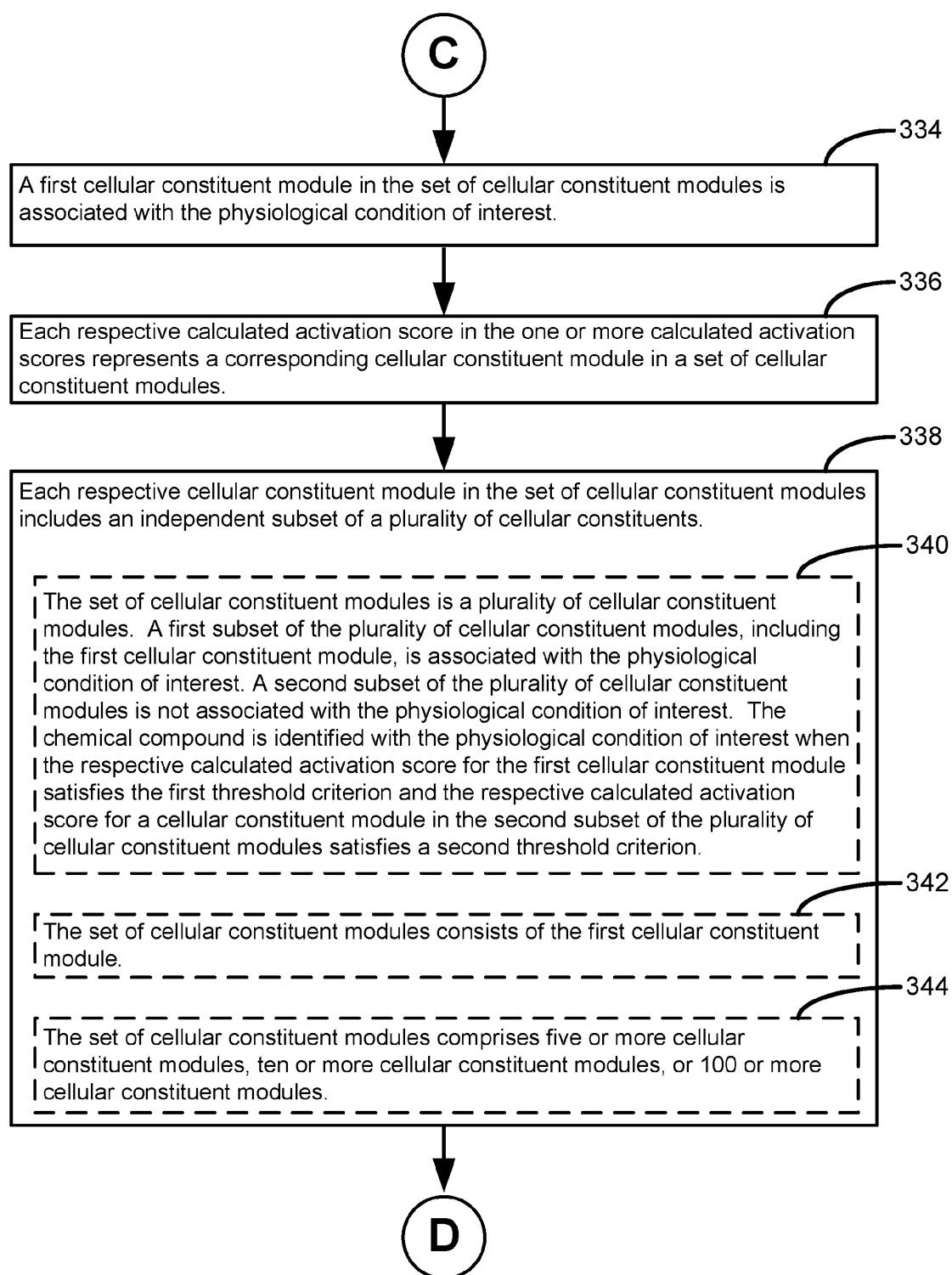
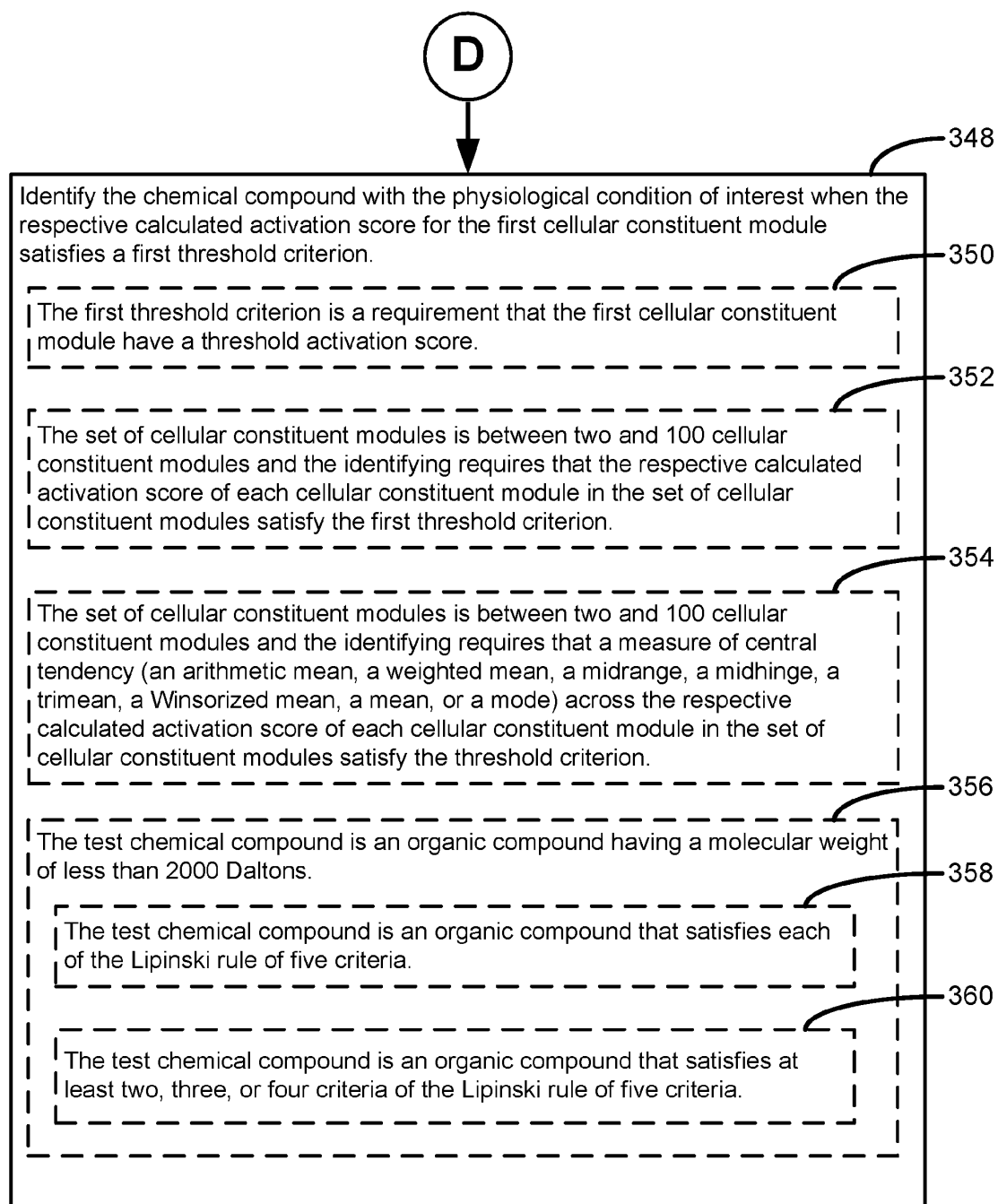


Figure 3D

**Figure 3E**

Count Matrix 402

		Cells				
Cellular constituents		Cell 1	Cell 2	Cell 3	Cell 4	Cell N
	Cellular constituent 1	Count ₁₋₁	Count ₁₋₂	Count ₁₋₃	Count ₁₋₄	Count _{1-N}
	Cellular constituent 2	Count ₂₋₁	Count ₂₋₂	Count ₂₋₃	Count ₂₋₄	Count _{2-N}
	⋮	⋮	⋮	⋮	⋮	⋮
	Cellular constituent Z	Count _{Z-1}	Count _{Z-2}	Count _{Z-3}	Count _{Z-4}	Count _{Z-N}

Latent Representation 404 (using correlation model)

Weights are binary (e.g., a weight of “1” means cellular constituent is in a cellular constituent module, a weight of “0” means a cellular constituent is not in a cellular constituent module)

		Cellular constituents				
Cellular constituent modules		CC 1	CC 2	CC 3	CC 4	CC Z
	Cellular c. module 1	Weight ₁₋₁	Weight ₁₋₂	Weight ₁₋₃	Weight ₁₋₄	Weight _{1-z}
	Cellular c. module 2	Weight ₂₋₁	Weight ₂₋₂	Weight ₂₋₃	Weight ₂₋₄	Weight _{2-z}
	⋮	⋮	⋮	⋮	⋮	⋮
	Cellular c. module K	Weight _{K-1}	Weight _{K-2}	Weight _{K-3}	Weight _{K-4}	Weight _{K-z}

Figure 4

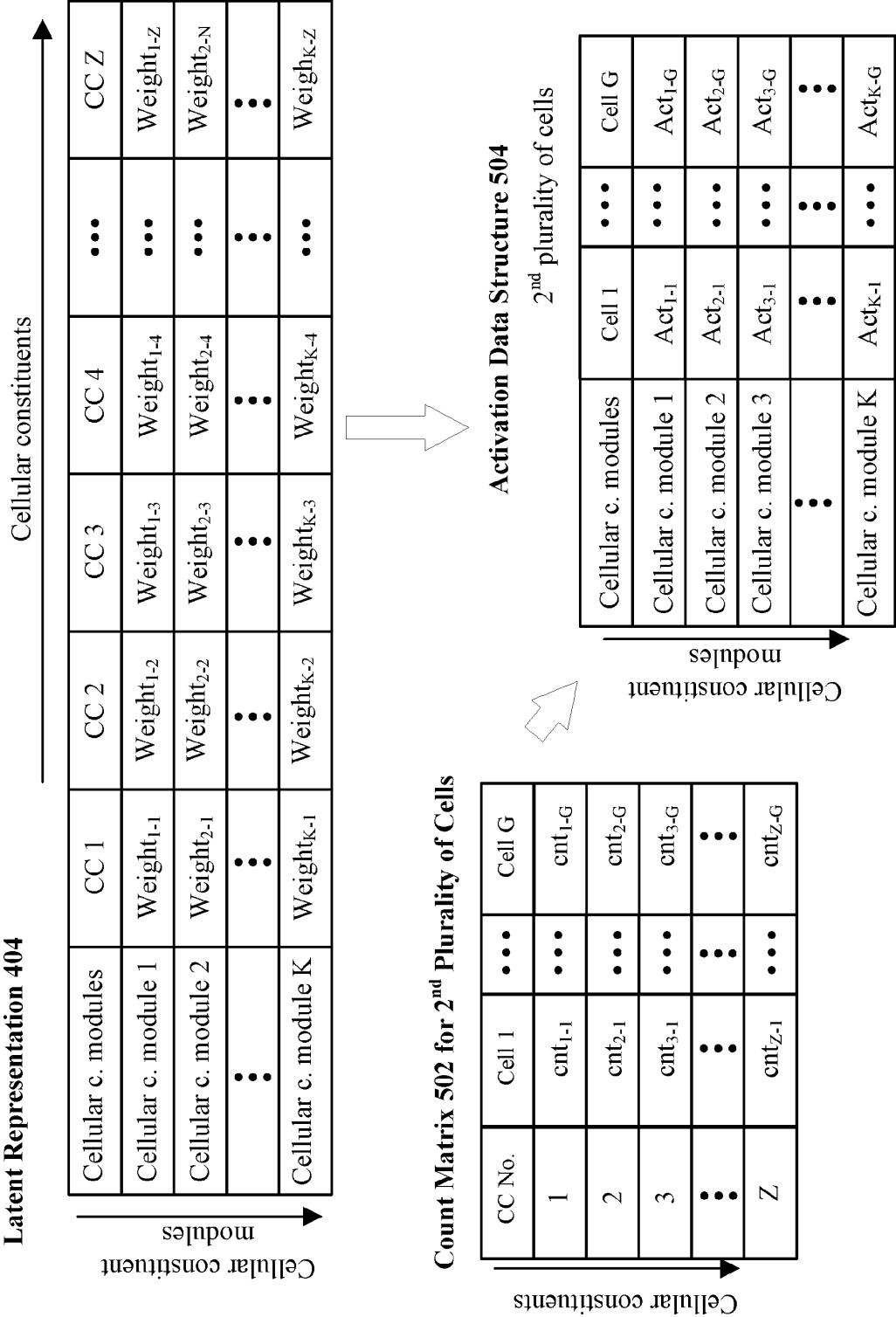


Figure 5

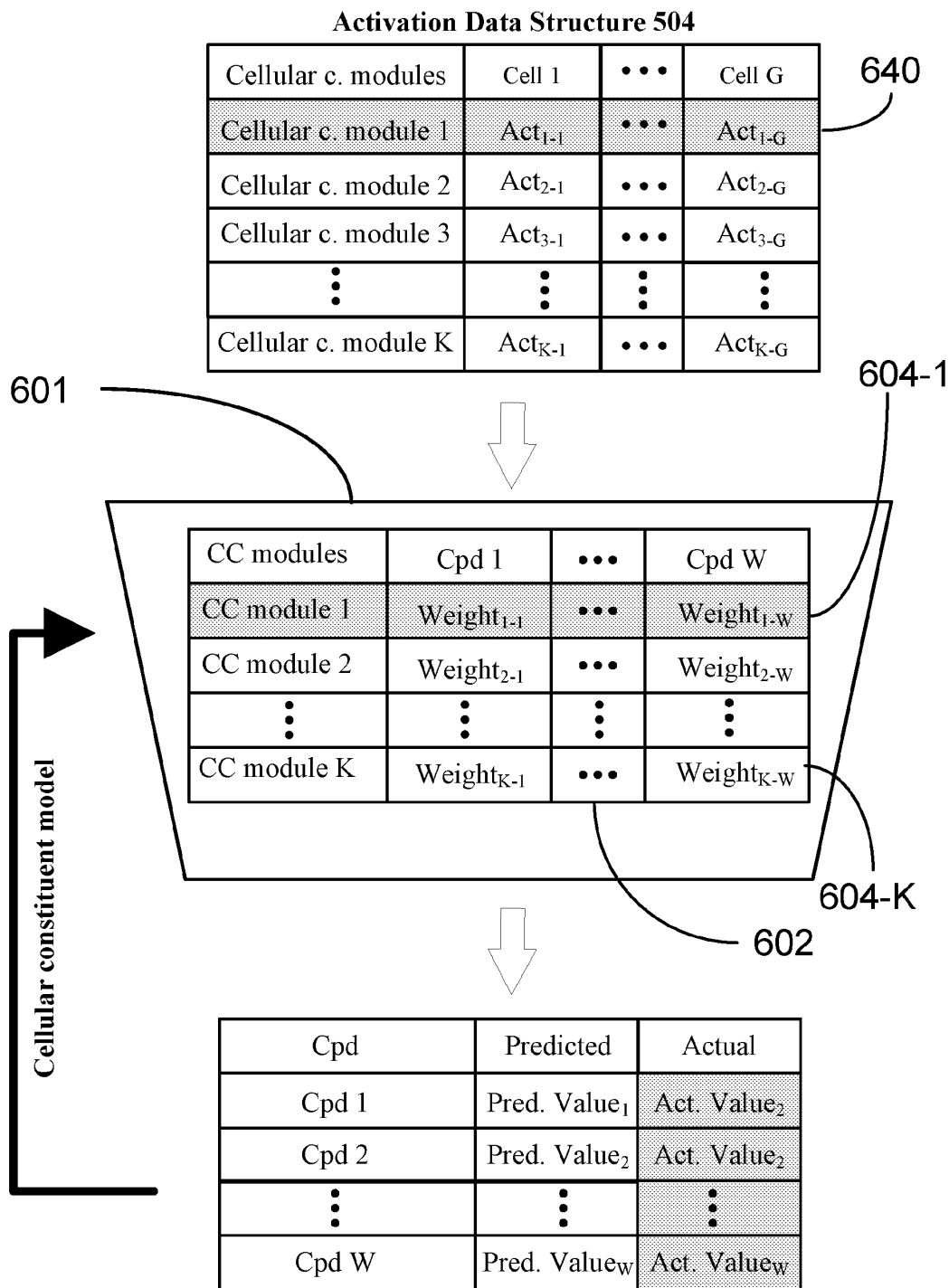
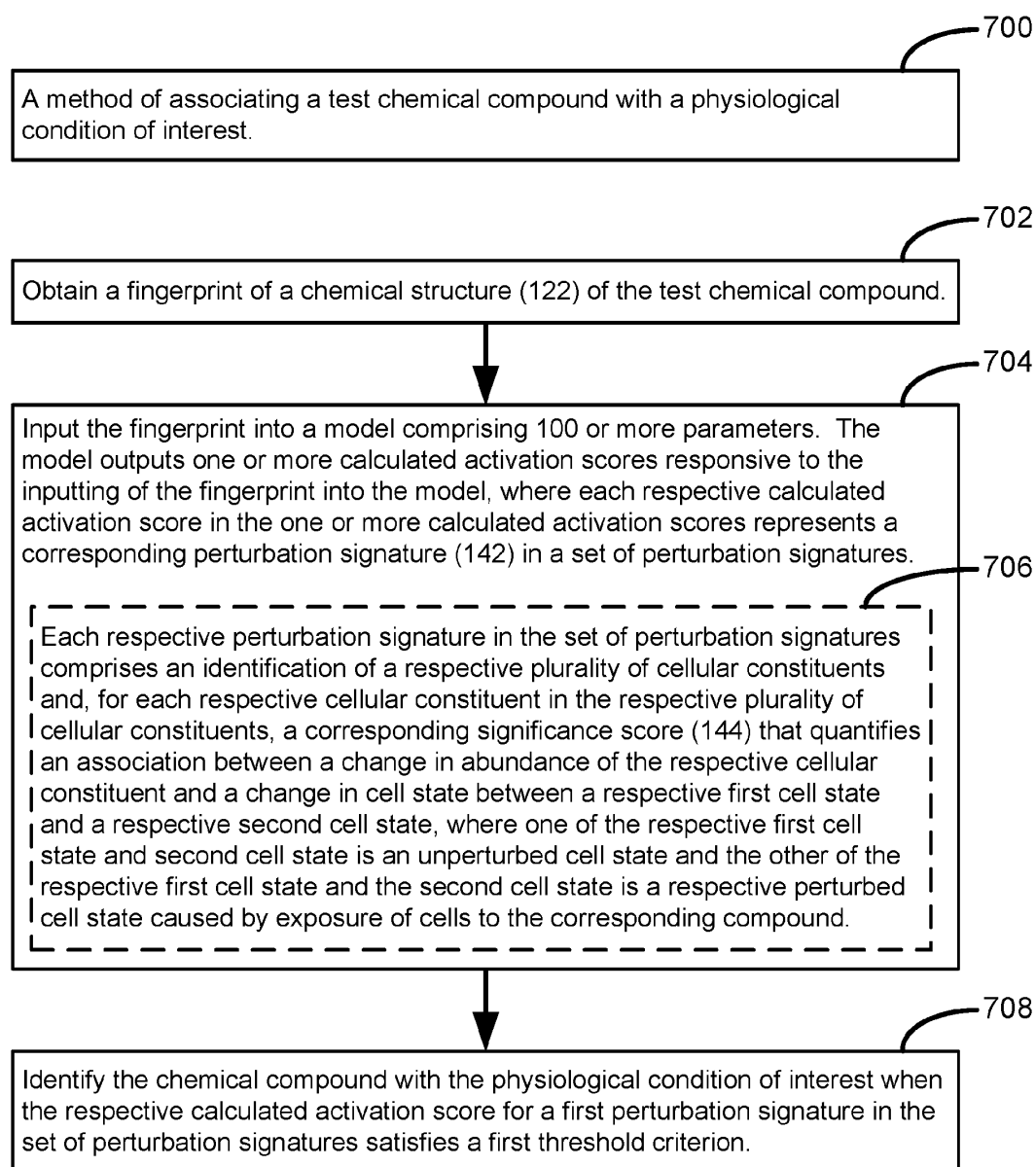
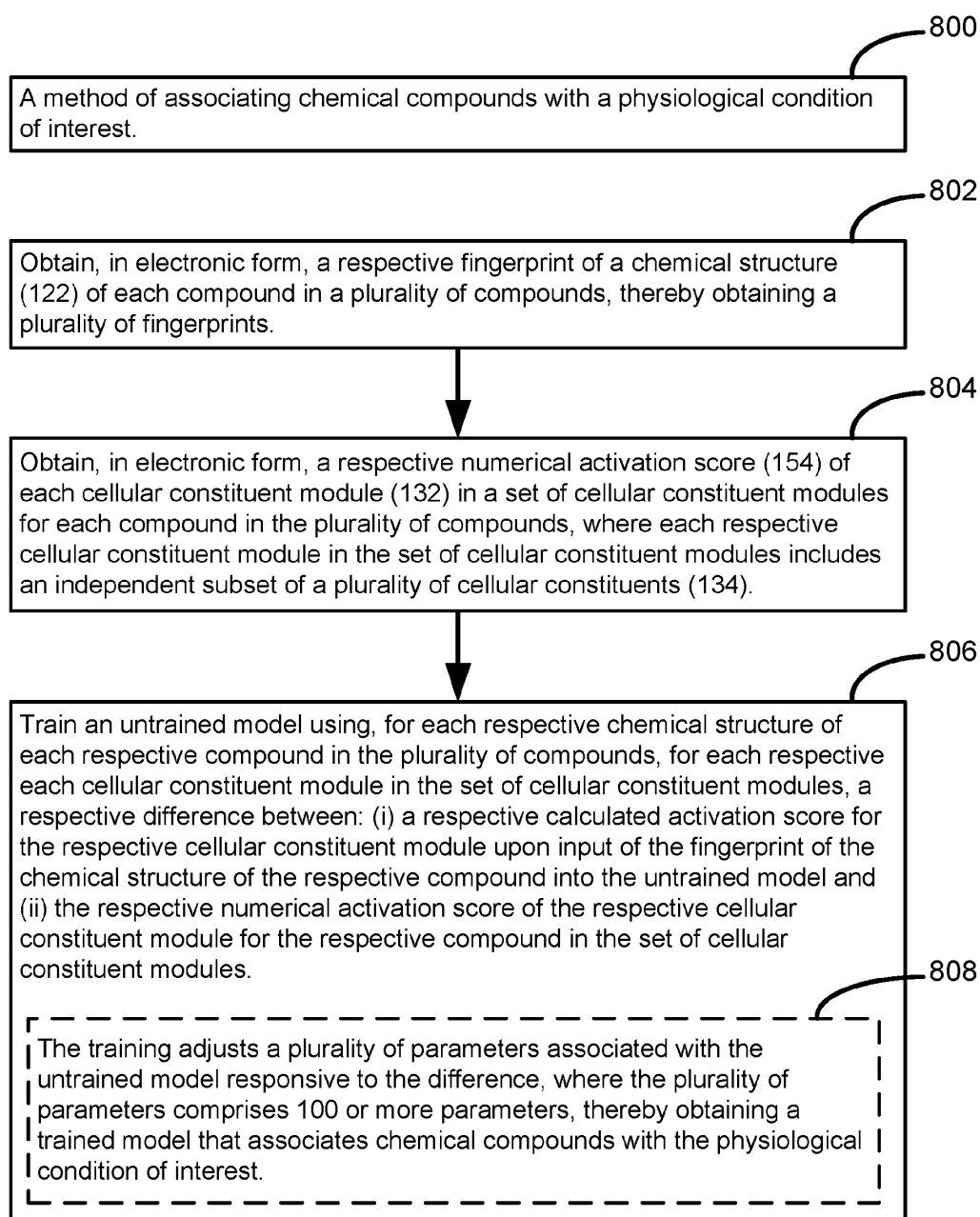


Figure 6

**Figure 7**

**Figure 8**

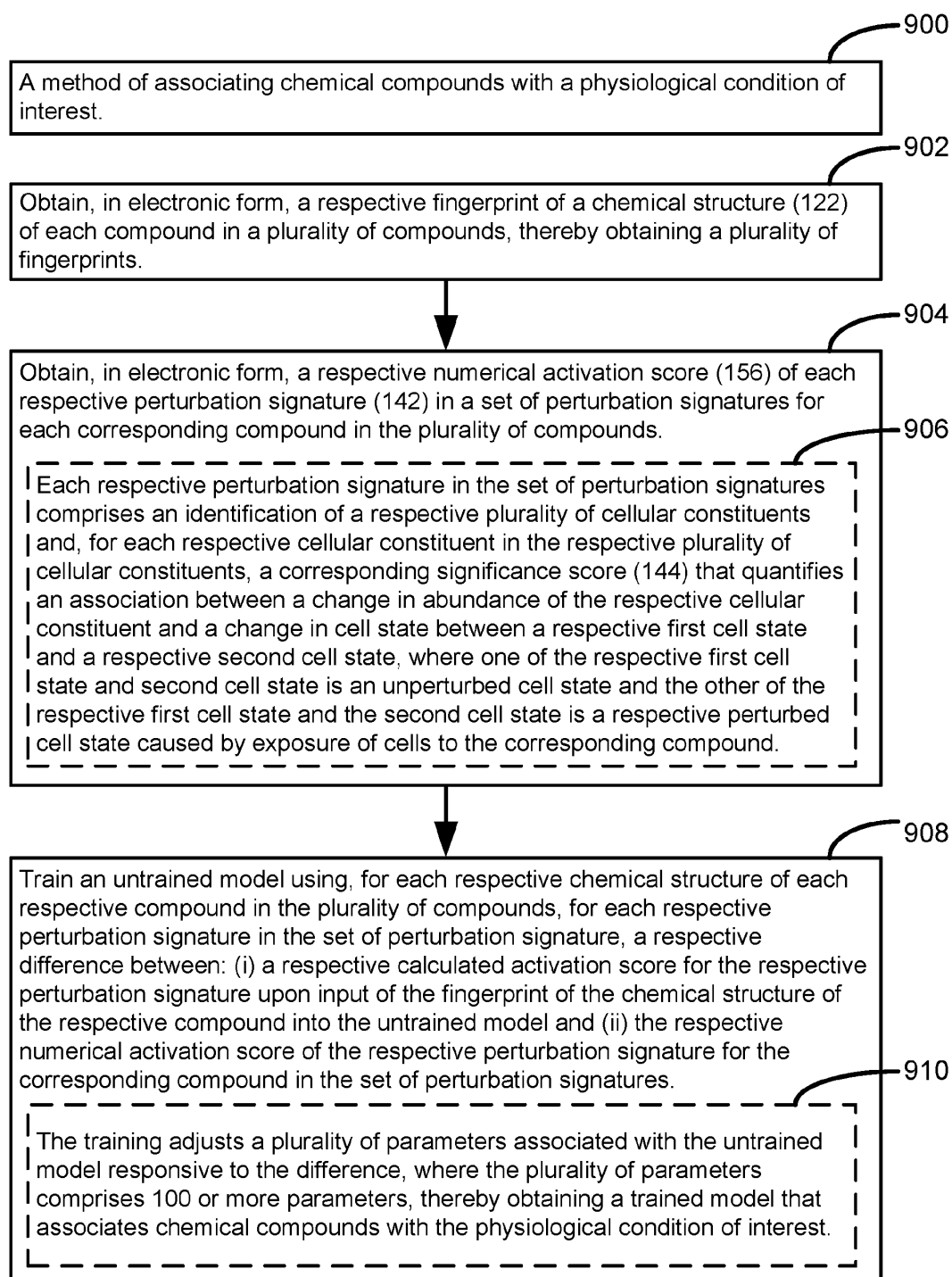


Figure 9

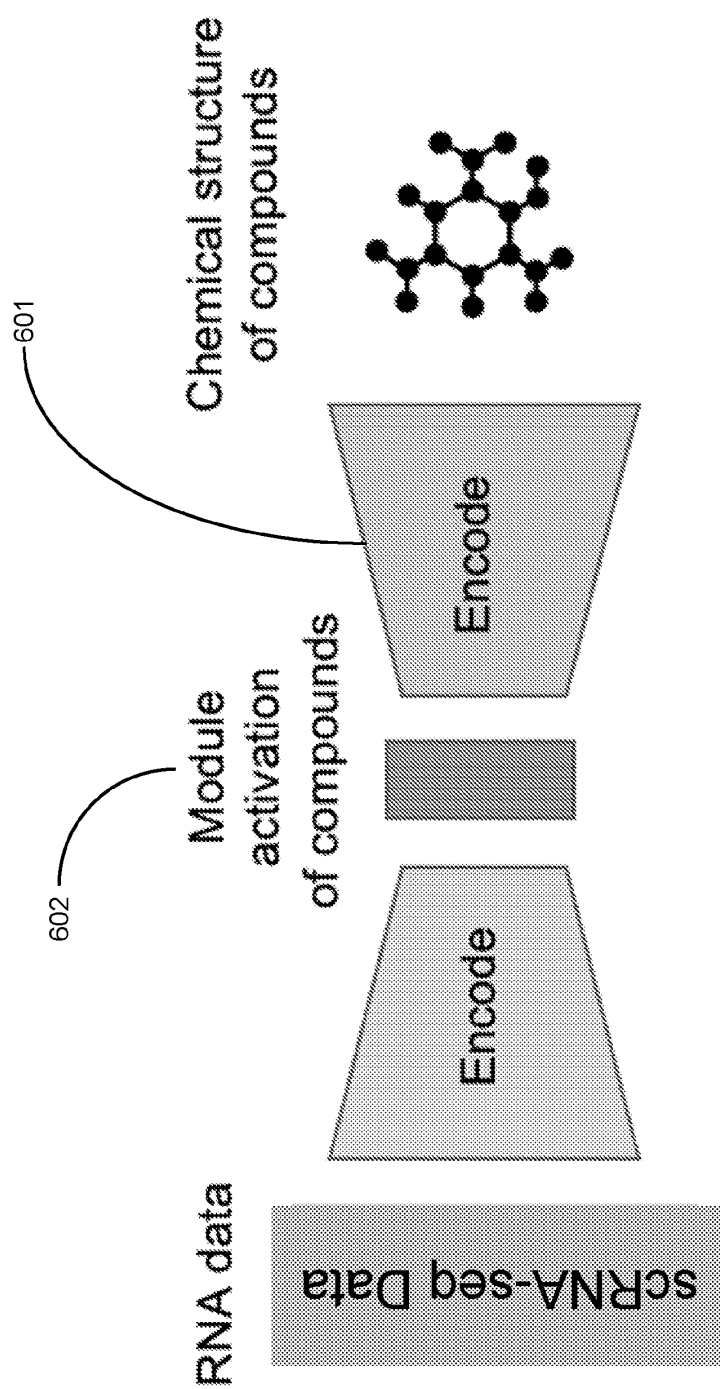


Figure 10A

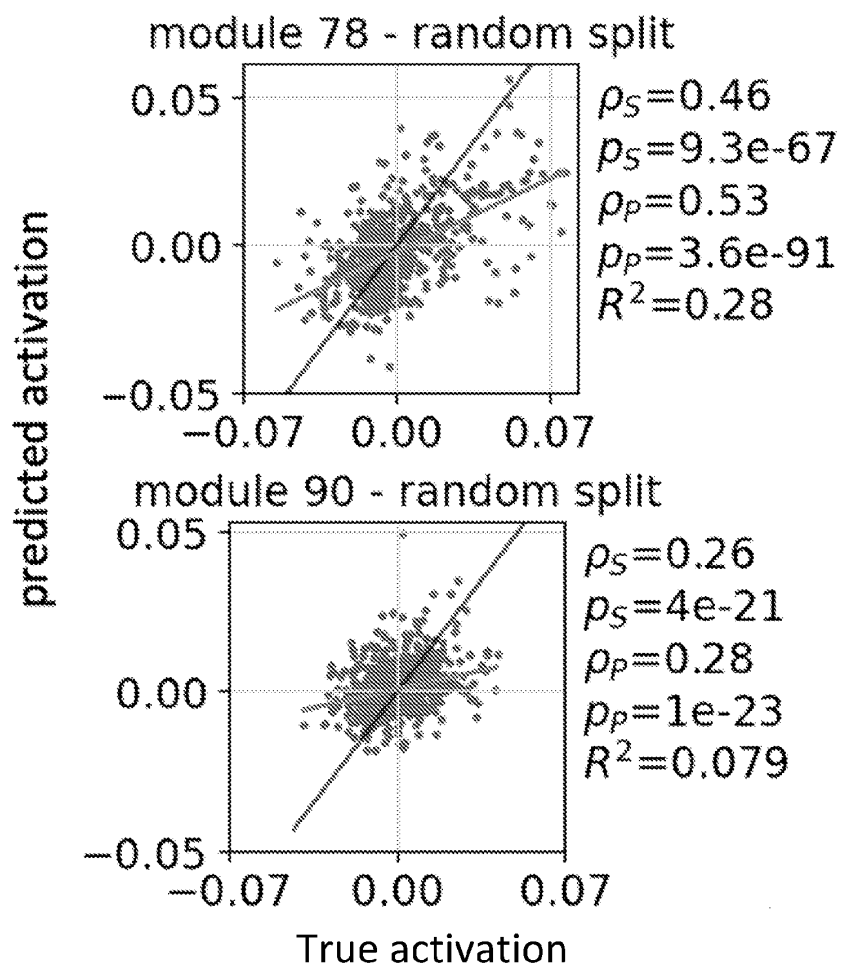


Figure 10B

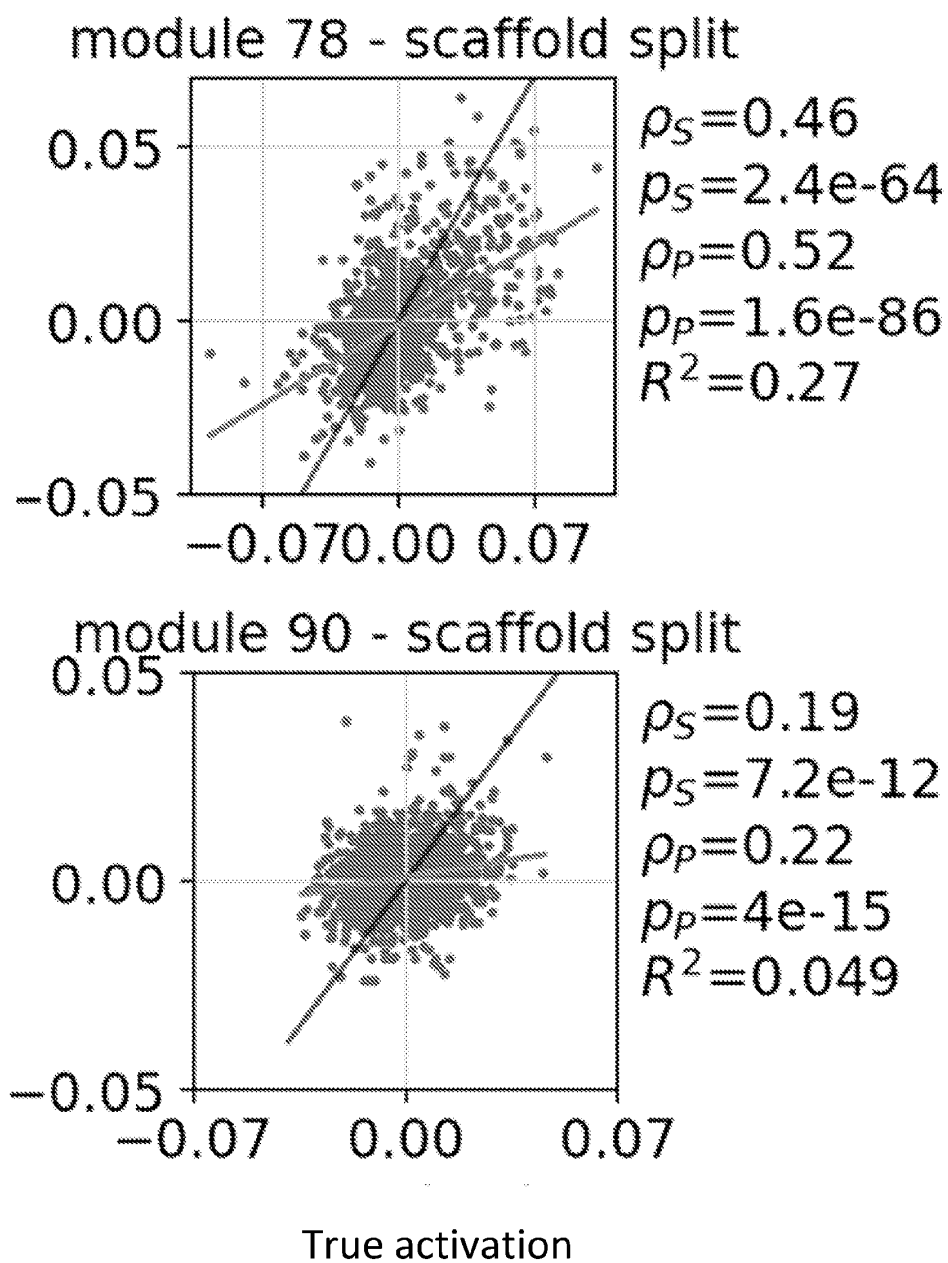


Figure 10C

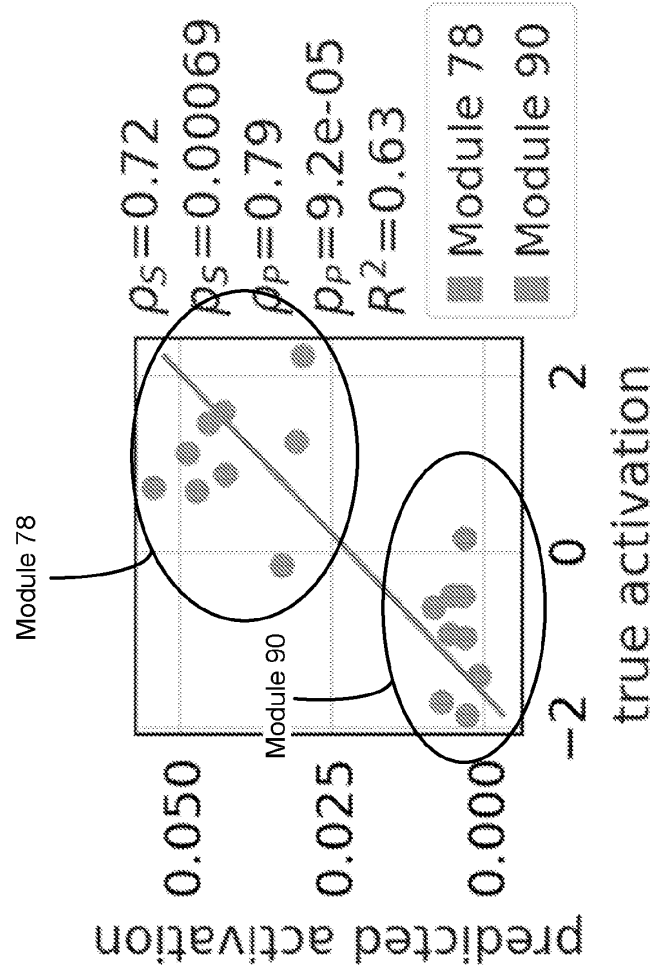


Figure 10D

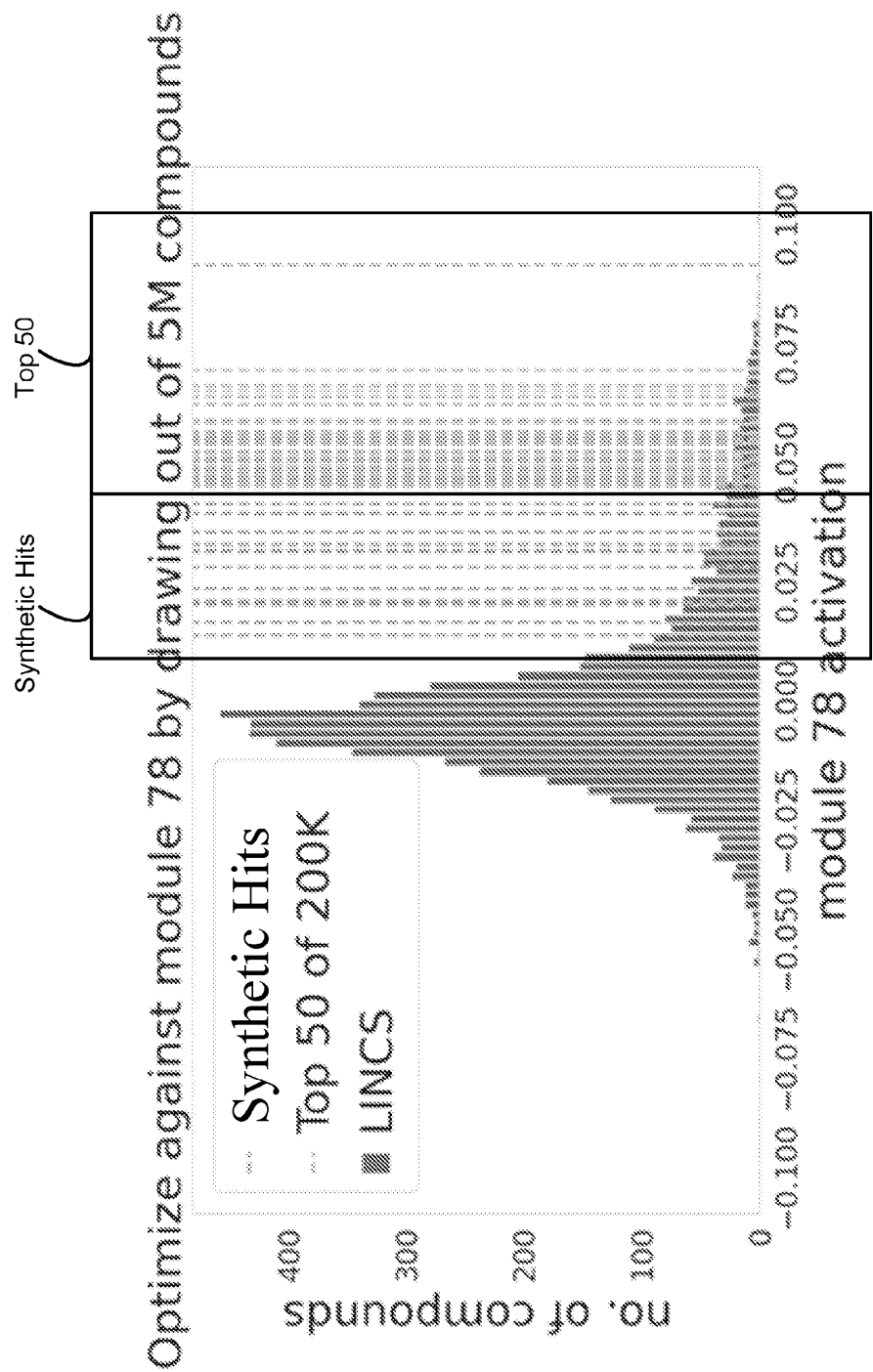


Figure 10E

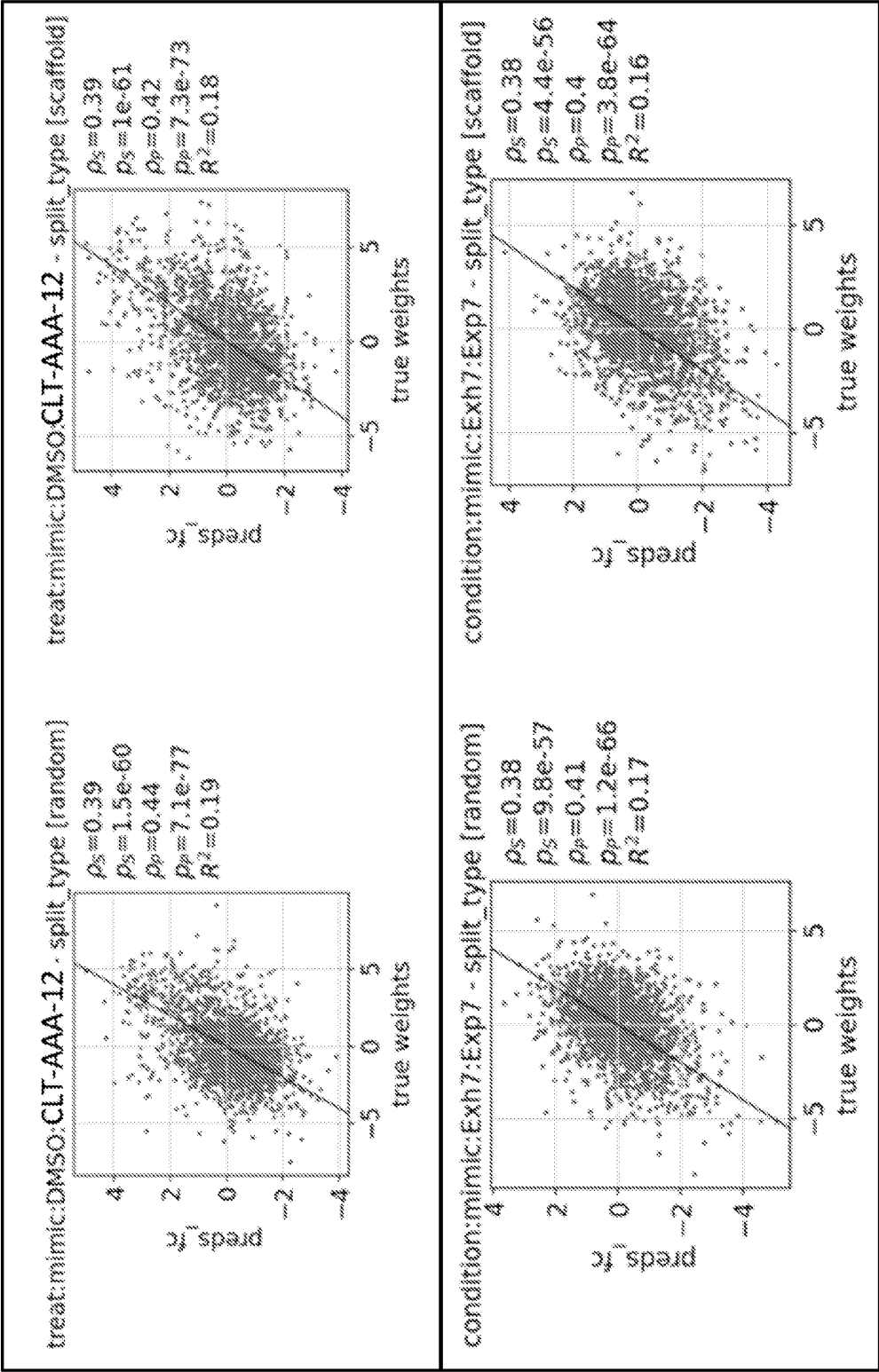


Figure 11

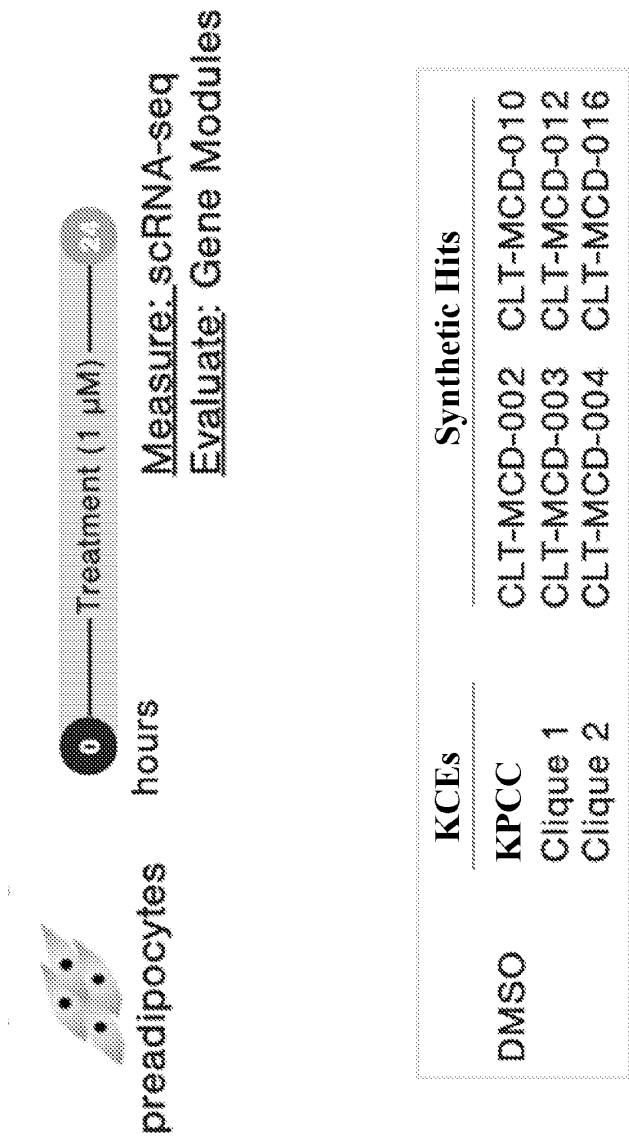


Figure 12

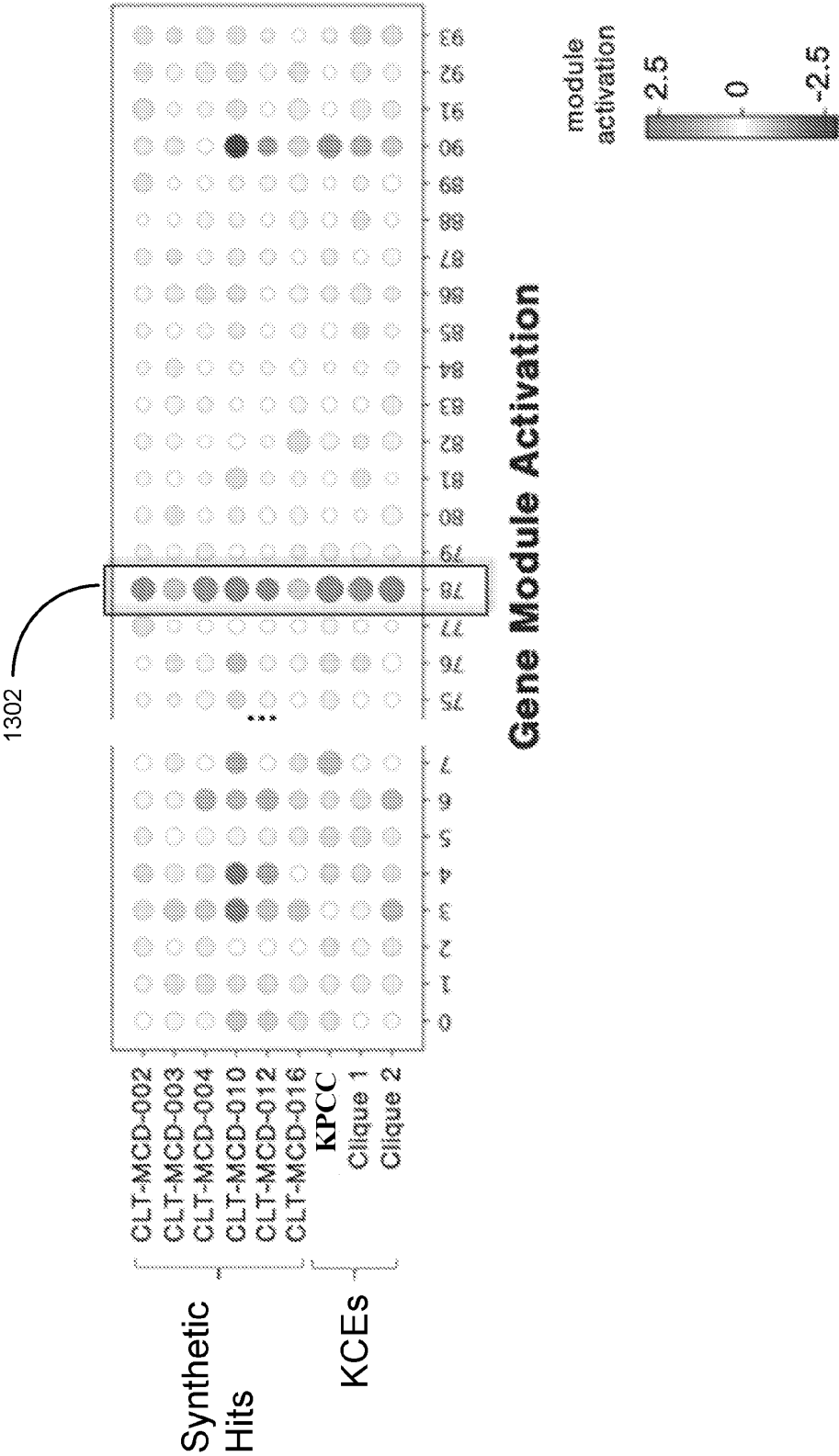


Figure13

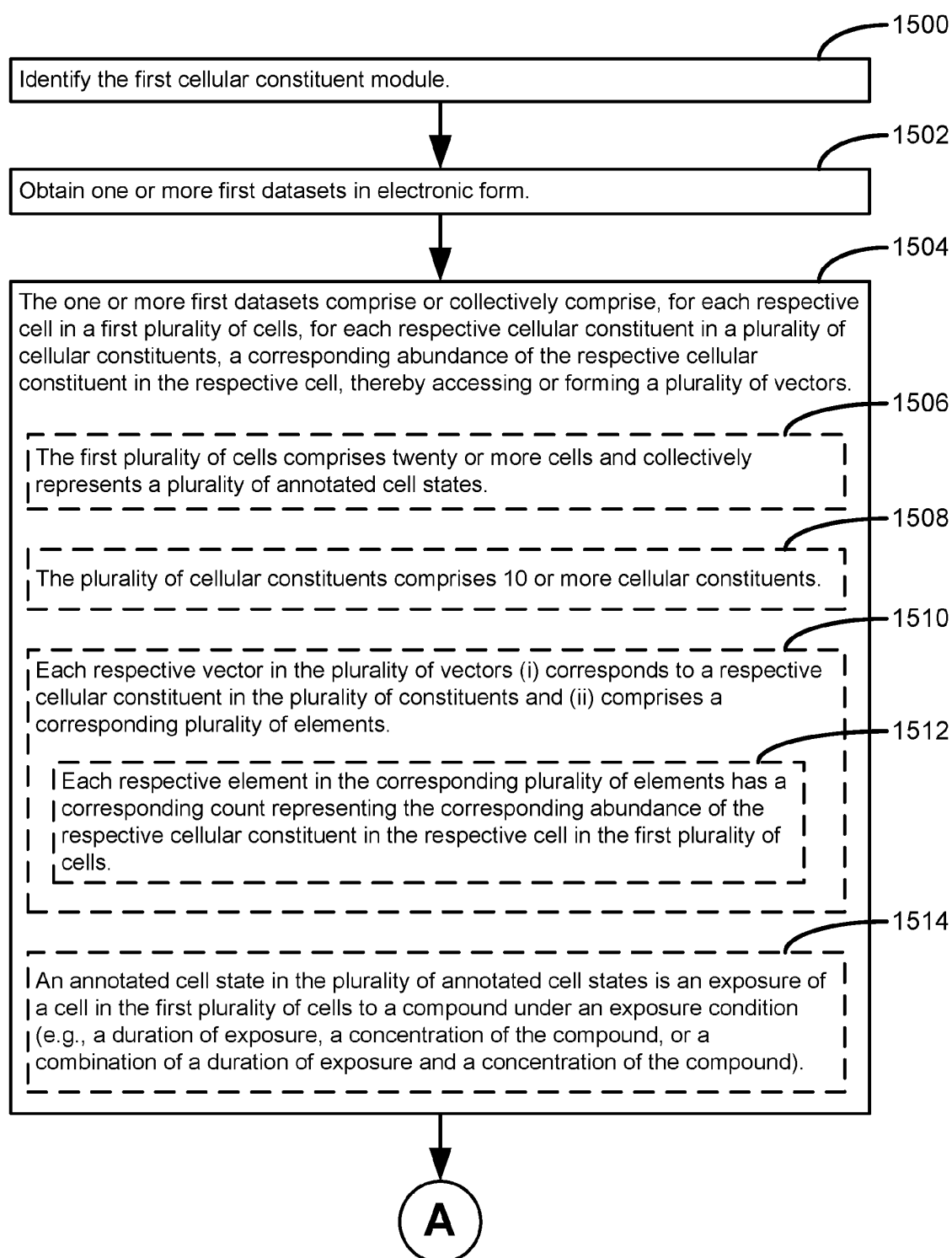


Figure 14A

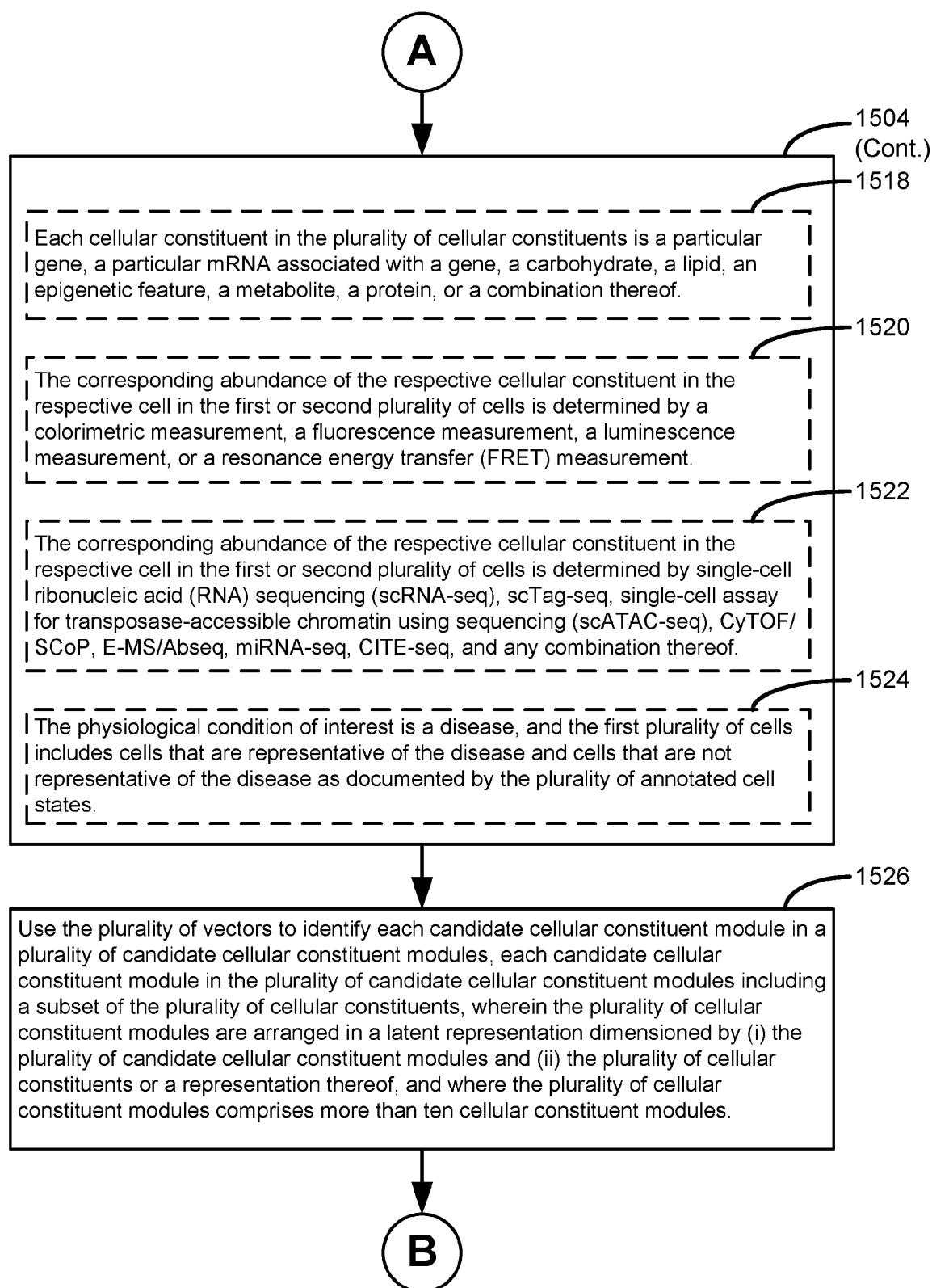


Figure 14B

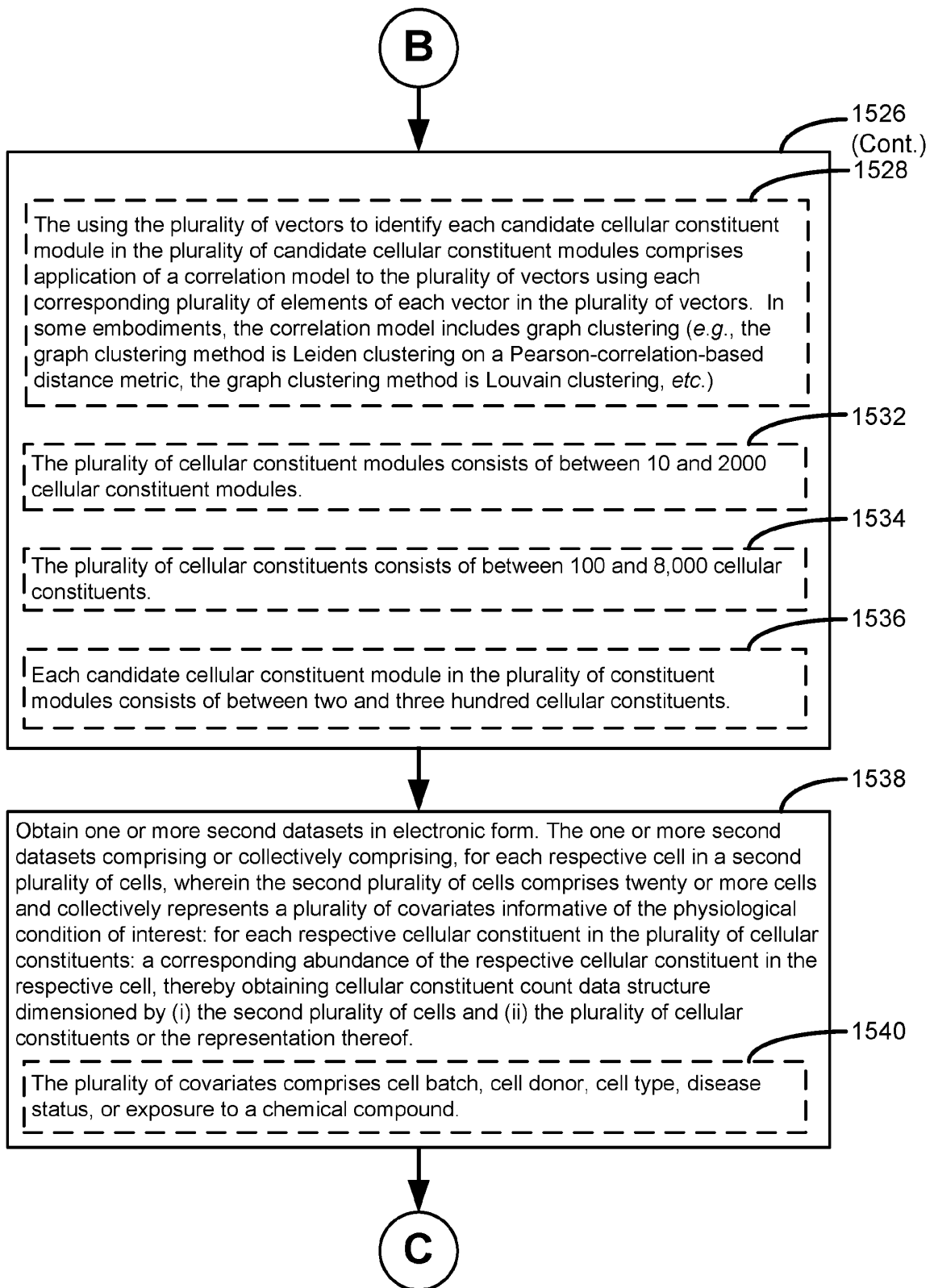


Figure 14C

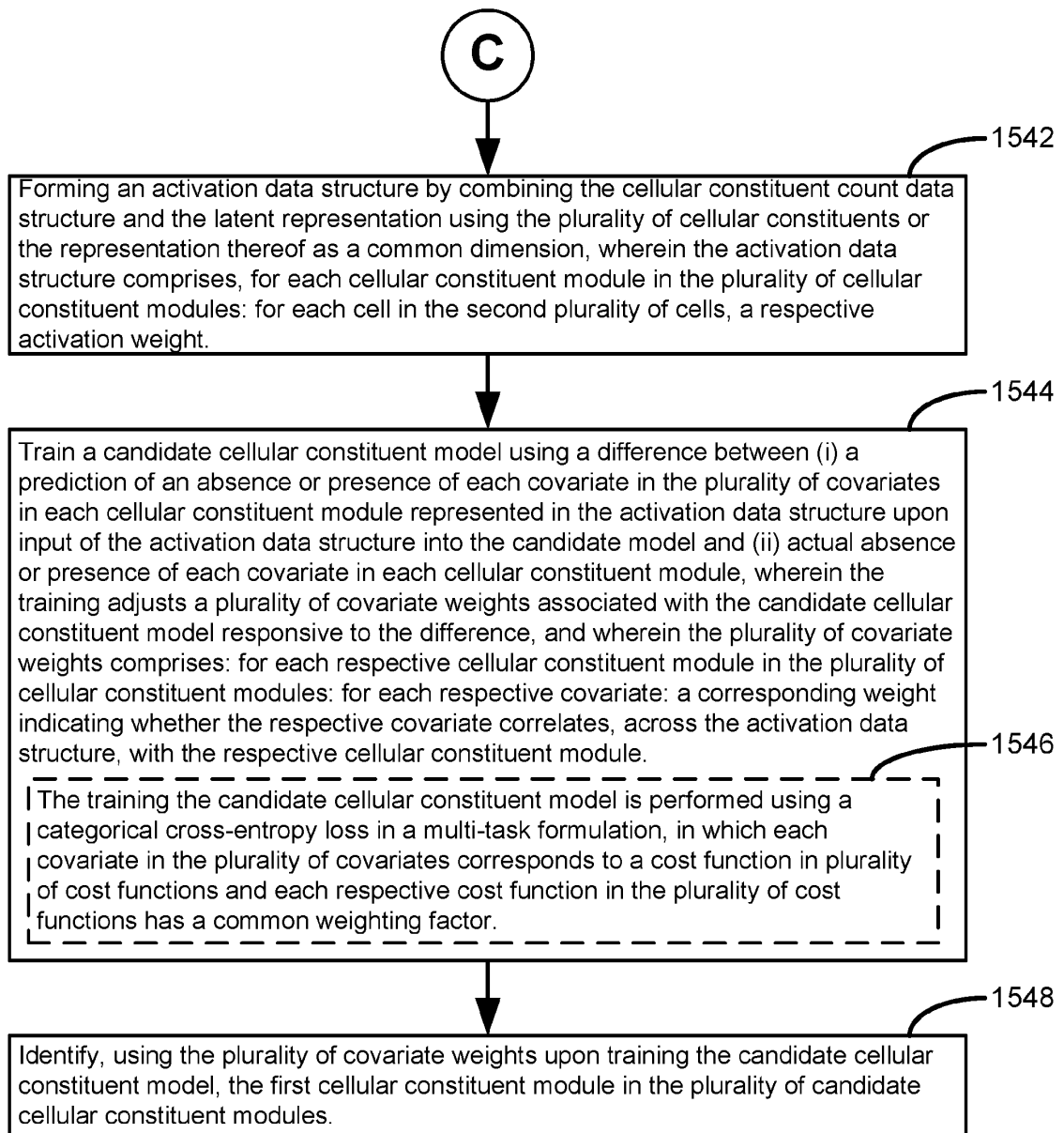


Figure 14D