

BD[®] Spectral Hotspot Matrix

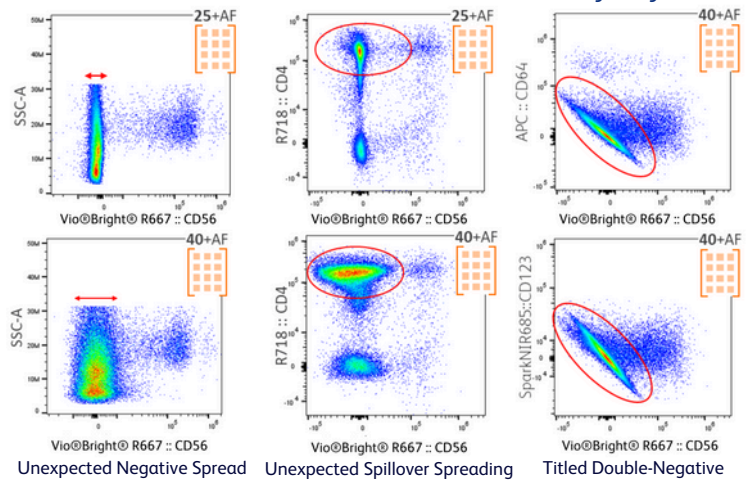
A New Tool for Spectral Panel Design

Discover how the BD[®] Spectral Hotspot Matrix can help you optimize your spectral panel performance and avoid problematic fluorochrome combinations.

Unmixing-dependent spread

Avoiding excess spillover is a crucial goal of spectral panel design, as it allows for the intricacies of your biology to be uncovered. There can be instances where unmixing with a full-panel spectral matrix reveals spread not seen when unmixing using a different spectral matrix with a different set or number of fluorochromes. Maybe you have even seen this in your own panel?

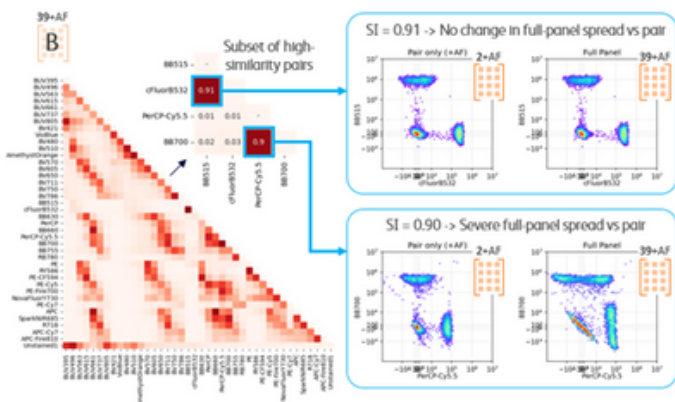
These are all hallmarks of unmixing-dependent spread - a change in the spread of an unmixed parameter when the same raw data is unmixed using different spectral matrices containing different or varying numbers of fluorochromes. Unmixing-dependent spread can happen in any spectral panel, regardless of the instrument, and is influenced by the full set of fluorochromes in the panel.



Unmixing-dependent spread can happen in spectral panels, regardless of instrument.

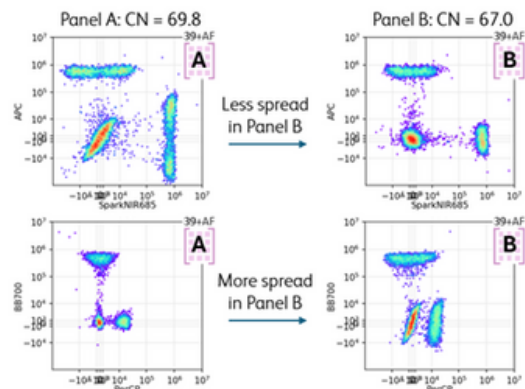
Predicting problems in your panel

Since unmixing-dependent spread is dependent on the fluorochromes in your panel, you can minimize the unwanted spread by designing high-quality panels. Similarity and complexity alone, however, don't provide the information you need to make the right fluorochrome choices.



Pair 1 (BB515 and cFluorB532) and Pair 2 (BB700 and PerCP-Cy5.5) have comparable similarity but drastically different spread in a full panel

Similarity index does not always predict spread differences in the context of a full panel.



VioR667 in Panel A is replaced in Panel B with PerCP-Cy5.5. The panels have comparable CN, but the same dye pairs have drastically different spread in A vs B

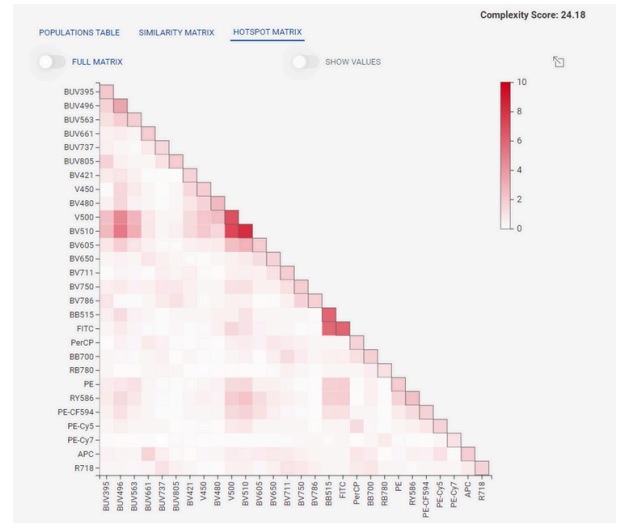
Complexity does not indicate which fluorophores are implicated in full-panel spread.



Introducing the BD[®] Spectral Hotspot Matrix

The BD[®] Spectral Hotspot Matrix is a simple tool that predicts the unmixing-dependent spread for each fluorochrome in the context of a specific panel. It helps identify problem areas in a panel indicating both the fluorochromes that will experience the most unmixing spread and the problematic combinations of fluorochromes that cause that spread.

- Clear identification of specific areas of concern within a panel
- Easy to use matrix with a clear threshold for problematic fluorochrome combinations
- Does not require experimental data or repeated unmixing
- Can help you iteratively improve or expand an existing panel

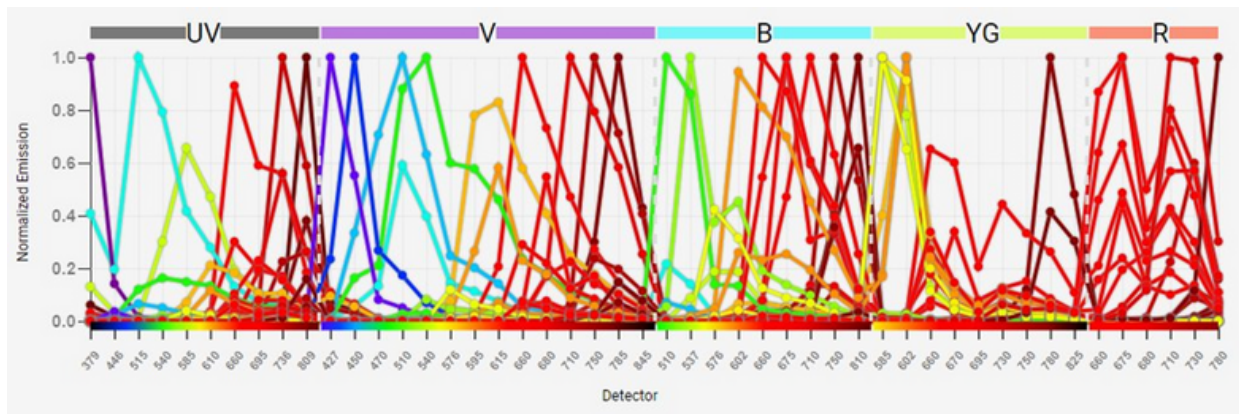


BD[®] Spectral Hotspot Matrix directly identifies problem areas in a panel.

Using the BD[®] Spectral Hotspot Matrix

The BD[®] Spectral Hotspot Matrix is available online for free as part of the BD[®] Research Cloud's spectral panel reagent selection workflow. The reagent selection workflow helps filter fluorochrome choices based on available reagents and compatibility with your instrument configuration for your specific biological questions.

The BD[®] Spectral Hotspot Matrix is based on measured spectral signatures for over 100 fluorochromes on BD FACSymphony[™] A5 SE, BD FACSDiscover[™] S8 and Cytex[®] Aurora instruments.



Learn more

- To learn more about the BD[®] Spectral Hotspot Matrix: <https://www.flowjo.com/learn/flowjo-university/bd-research-cloud>
- To learn more about BD[®] Research Cloud and how it can help you acquire, analyze, and share spectral data more easily, visit <https://www.bdbiosciences.com/en-us/products/software/bd-research-cloud>
- To learn more about the BD spectral flow cytometry portfolio and how it can help you achieve high-dimensional analysis with spectral technology, visit bdbiosciences.com/spectral.

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