

Tips for using the SureSprayTM PST-4PP+LC nozzles and PST-LC-TIP

Do not touch the tip of the nozzle. Even very slight pressure will destroy the nozzle.

- 1) Place nozzle ~ 0.5 cm from the mass spectrometer inlet to begin. Adjust as needed. Nozzle may be used on-axis, off-axis or orthogonal.
- 2) For the LVTIP, the spray voltage range is typically from 2 KV. It is possible to go lower (if nozzle is placed within 1-2 mm of the inlet cone) or higher. At voltages higher than 3.5 KV, multiple plumes may result.
- 3) For nanospray, the inlet temperature should be less than 100 °C, and cone gas, sheath gas and curtain gas may not be needed.
- 4) For negative ion spray, isopropanol (IPA) may be used in the buffer to minimize discharge if necessary.
- 5) For a pure aqueous buffer, the operational voltage range is smaller and the starting voltage is typically higher.
- 6) When using a Protana/Proxeon interface, type in double of the intended spray voltage in the data system software in order to obtain the desired voltage output. For example, if the intended spray voltage is 2.5 KV, type in 5 KV in the data system. The Protana interface puts out half of the typed-in voltage. This is true with the older Protana interfaces. Check with Protana if you are not sure whether yours halves the output voltage. Alternatively, type in 50 volts in the data system, and check the output voltage at the alligator clip with a voltmeter to see whether 25 V or 50 V is put out. Be careful while working with high voltages!
- 7) For mass spectrometers from Bruker-Daltonics, Agilent, etc., where the high voltage for the nanospray is on the inlet side of the spectrometer, electrically ground the liquid in the nozzle (through the gold coating of the capillary or the union liquid junction). The voltage used for spraying tends toward the high side.
- 8) It is possible to reuse the tips as long as MS signal level has not degraded and no cross contamination is observed. Some samples such as culture broths may have carry-over. Rinse the complete line and the nozzle thoroughly when switching samples. Although these nozzles are priced at the level of the one-time disposable nanospray sources supplied by other vendors, one customer reportedly has used a nozzle for nanoLC-MS for many months with no degradation of signal.

. We appreciate feedback. Please send your input to comments@phoenix-st.com

