## Laser-pulled robust spray emitters and empty columns for self-packed columns

- Tried and true fused silica emitters for nanoLC-MS laser-pulled with proprietary methods
- Very short taper < 1mm, mechanically strong, robust spray
- Large flow-rate range from nL/minute to >uL/minute
- The default tip opening i.d. is ~5
  um for emitters and empty
  capillaries for packing columns.
  Tip openings of 1 um, 5 um, and
  15 um i.d. for empty self-packed
  columns are available.
- Low cost
- Gold tip coating available

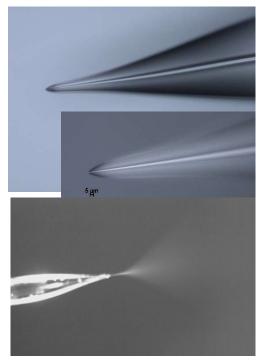
**Model numbers - Emitters** 

PST-seTip-xx-yy, xx=i.d. of 20 um, 25 um. 50 um, 75 um, 100 um, yy=length 5, 10, 15 cm

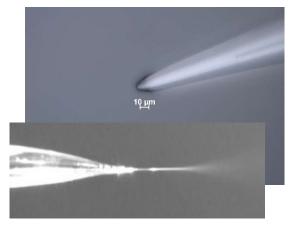
Gold-coated emitters: PST-seg-xx-yy

**Model numbers - Empty Columns** 

PST-seFrit-zz-yy, xx= i.d. 20, 25, 50, 75, 100 um; yy=length: 20cm to 100 cm, please specify.



20 um i.d., 360 um o.d. emitter showing ~5 um i.d. tip opening and very short tapered channel from 20 um to 5 um. Spray: MeOH/H2O, 500 nL/min. 2.3 KV



75 um i.d. capillary pulled to a 5-6 tip i.d.. The spray was for MeOH at 3.3 KV and 3 uL/min/

