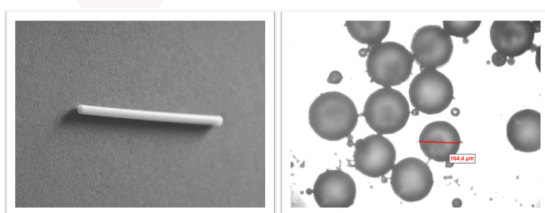


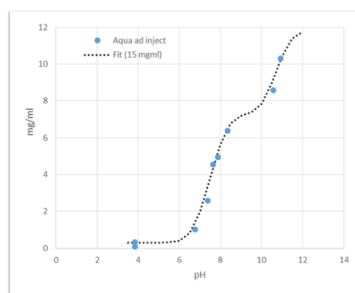
**Specialized Drug Delivery**

**Poorly bioavailable drugs**

- ✓ Solid solutions/ (amorphous) dispersions
- ✓ Lipidic systems, nanocrystals
- ✓ Hot melt extrusion/ granulation
- ✓ Spray drying/ congealing
- ✓ Milling / nano-sizing



**Hot melt extrudate and spray congealed particles**



**pH / solubility profile of API (Sirius inForm)**

**Unstable drugs**

- ✓ Various stabilization techniques (O<sub>2</sub>, RH, light)

**Highly potent and CMR drugs**

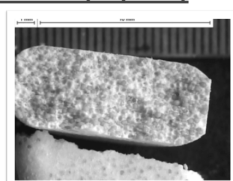
- ✓ Hormones
- ✓ Anti-cancer drugs

**Controlled substances**

- ✓ Narcotics

**Fast disintegrating oral DDS (IR / MR)**

- ✓ Tablets (ODT)
- ✓ Lyophilized DDS



**Pediatric dosage forms**

- ✓ Liquids, reconstitutable dosage forms
- ✓ Multiparticulates (e.g., pellets, minitables)
- ✓ ODTs

**Microencapsulated peroral products**

- ✓ Antibiotics
- ✓ Drugs and nutraceuticals

**Taste masking**

- ✓ Solids (swallowable, chewable, ODTs)
- ✓ Liquids (flavoring, ion-exchange resins)
- ✓ Tablet coating
- ✓ Microencapsulation

**Lyophilization**

- ✓ Aqueous and organic
- ✓ Optimization of freeze-drying cycles

**Services**

- ✓ Preformulation, Formulation development
- ✓ QbD approach
- ✓ Life cycle management
- ✓ Trouble shooting
- ✓ Analytical (selection below)
  - Solid state: PXRD, DSC, TGA, DVS
  - Powder properties
  - Particle size: Laser diffractometry (liquid and powder), photon correlation spectroscopy
  - Chromatography: HPLC (UV, RI, ELSD), GPC / SEC (RLS, RI, Viscosity), GC
  - Release testing: Compendial / non-compendial, real time / accelerated
  - Rheology / torque rheology
  - Stability and stress testing