



# Research and Development of Glassy Liquid Crystals, Semiconductors, and Ceramics for Optoelectronics Including Polarizers, Waveplates and Lasers

## glassy liquid crystals

- non-absorbing polarizers
- notch filters, mirrors
- polarized photoluminescence
- photonic switching & memory

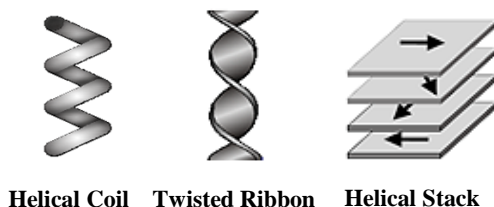
## organic semiconductors

- circularly polarized lasers
- polarized light-emitting diodes
- anisotropic field-effect transistors
- photoalignment polymers

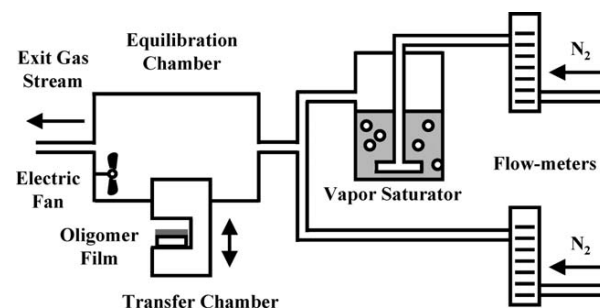
## mesomorphic ceramics

- self-organized superstructures of nanoscale building blocks
- processing via lyotropic LCs
- robust waveplates, active and passive polarizers
- geometric surfactancy

### Supramolecular Chiral Assemblies



### Solvent-Vapor Annealing at Room Temp



### Robust Circularly Polarized Lasers Using Glassy Liquid Crystals

