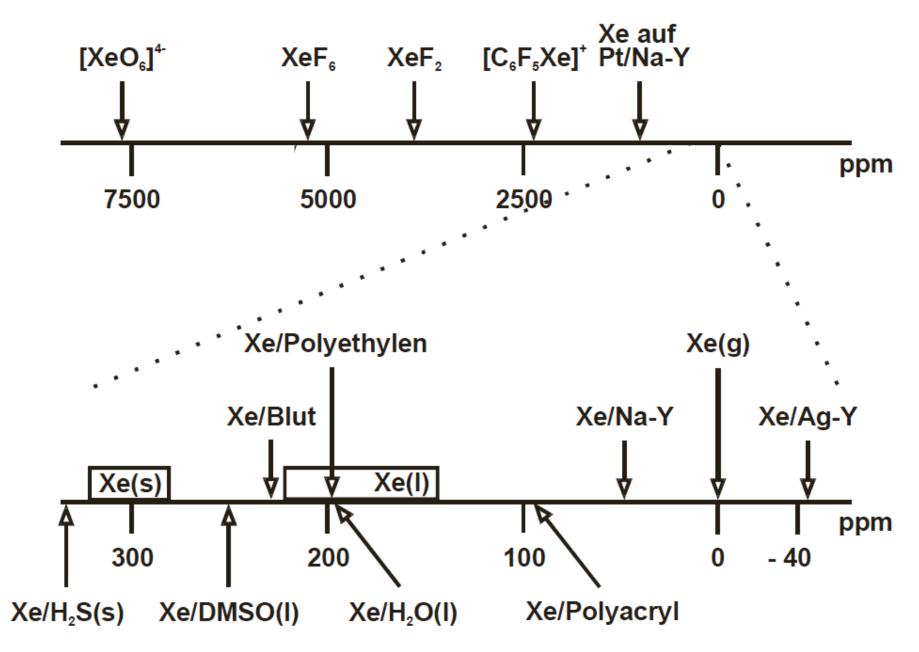
(8) Applications – digression into sensing and imaging: Xe-129 NMR

- Xe-129: ,good' nucleus (I = 1/2) at reasonable natural abundance (26.4%),  $\gamma$  comparable to C-13 (-7.4 vs. 6.7× 10<sup>7</sup> T<sup>-1</sup>s<sup>-1</sup>)
- Huge, polarizable electron cloud ([Kr] 4d<sup>10</sup>5s<sup>2</sup>5p<sup>6</sup>) makes chemical shift sensitive to local environment
- Amenable to hyperpolarization for improved sensitivity (up to 10.000-fold increase)

Pines , Isr. J. Chem. 2014, 54, 104.



Modern Methods in NMR Spectroscopy – Heteronuclei