

## 8. INSTRUMENTS AND METHODS

Analytical HPLC: Self made set-up with Merck-Hitachi L-6000 pump, HPLC column Buckyprep Waters  $4.6 \times 250$  mm and Knauer variable wavelength detector.

Preparative HPLC: Self made set-up with Knauer HPLC pump 64, HPLC Column Buckyprep Waters  $20 \times 250$  mm and Knauer UV Detector 2001.

CW ESR measurements at X-band at room temperature were done on Miniscope MS-100 with self made goniometer.

Pulsed ESR experiments at X-band were done using Bruker ELEXSYS E580, at the SE1 Department of Hahn-Meitner Institut Berlin, with Flexline dielectric resonator equipped with a cryostat from Oxford Research.

CW, pulsed ESR and pulsed ENDOR measurements at W-band at various temperatures were done on a Bruker ELEXSYS E680 spectrometer at the Physics Department of University of Stuttgart. The electron spin phase rotations were implemented using a self made phase network installed in the spectrometer. The nuclear spin phase rotation were realized by directly changing the phase of the RF pulses.

XRD single crystal measurements were performed by Jurgen Nuss in the Jansen group at Max Planck institute for solid state research in Stuttgart at  $T = 100$  K on a SMART-APEX CCD X-ray diffractometer (Bruker AXS Inc.) with graphite-monochromated Mo-K radiation and temperature control with a 700 series Cryostream cooler (Oxford Cryosystems).

