Supporting information for ‘The Electronic Structure of Perfluorodecalin studied by Soft X-ray Spectroscopy and Electronic Structure Calculations’

T. Brandenburg\textsuperscript{a,b}, M. Agåker\textsuperscript{c}, K. Atak\textsuperscript{a,b}, M. Pflüger\textsuperscript{a,b}, C. Schwanke\textsuperscript{a}, T. Petit\textsuperscript{a}, K. M. Lange\textsuperscript{a}, J.-E. Rubensson\textsuperscript{c,†} and E. F. Aziz\textsuperscript{a,b,d,††}

\textsuperscript{a} Institute of Methods for Material Development, Helmholtz-Zentrum Berlin für Materialien und Energie, Albert-Einstein-Straße 15, 12489 Berlin, Germany
\textsuperscript{b} Department of Physics, Freie Universität Berlin, Arnimallee 14, 14195 Berlin, Germany
\textsuperscript{c} Department of Physics and Astronomy, Uppsala University, Box 516, SE 751 20 Uppsala, Sweden
\textsuperscript{d} Institute for Molecular Science, Myodaiji, Okazaki 444-8585, Japan
\textsuperscript{†} jan-erik.rubensson@physics.uu.se
\textsuperscript{††} emad.aziz@helmholtz-berlin.de

\textbf{Sup 1:} Perfluorodecalin carbon and fluorine K emission compared to gas phase reference data of fluoromethanes\textsuperscript{1}. The reference data was shifted by 2.3 eV to fit with the experimental features. Comparison shows striking resemblance between reference and experimental data.

**Sup 2:** Perfluorodecalin carbon K absorption compared to theoretical data of trans- and cis-PFD (see Fig.1). Both isomers exhibit similar spectra concerning peak positions and intensity. Subsequently, a discussion of the influence of either isomer is not needed.

**Sup 2:** Perfluorodecalin carbon K absorption compared to theoretical calculations of monomer and trimer configurations. Both configurations exhibit similar spectra concerning peak positions and intensity.