Darstellung, Schwingungsspektren und Normalkoordinatenanalyse von bindungsisomeren Halogenoselenocyanatorhenaten(IV) sowie Kristallstrukturen von *mer*-$(Ph_4P)_2[ReCl_3(NCSe)_2^{cis}(SeCN)]$ und *mer*-$(n\text{-}Bu_4N)_2[ReCl_3I(NCSe)_2^{cis}]$

Synthesis, Vibrational Spectra and Normal Coordinate Analysis of Linkage Isomeric Halogenoselenocyanatorhenates(IV) and Crystal Structures of *mer*-$(Ph_4P)_2[ReCl_3(NCSe)_2^{cis}(SeCN)]$ and *mer*-$(n\text{-}Bu_4N)_2[ReCl_3I(NCSe)_2^{cis}]$

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fac-Trichlorotriselenocyanato(N)-rhenate(IV), *mer*-Trichloro-*cis*-diselenocyanato(N)-selenocyanato(Se)-rhenate(IV), *mer*-Trichloromonoiodo-*cis*-diselenocyanato(N)-rhenate(IV), Crystal Structure, Normal Coordinate Analysis

By treatment of *fac*-$[ReCl_3I_3]^{2-}$ with $(SeCN)_2$ in dichloromethane *fac*-$[ReCl_3(NCSe)_3]^{2-}$ (**1**), *mer*-$[ReCl_3(NCSe)_2^{cis}(SeCN)]^{2-}$ (**2**) and *mer*-$[ReCl_3I(NCSe)_2^{cis}]^{2-}$ (**3**) are formed which have been separated by ion exchange chromatography on diethylaminoethyl cellulose. The crystal structures of *mer*-$(Ph_4P)_2[ReCl_3(NCSe)_2^{cis}(SeCN)]$ (triclinic, space group P1, a = 16.099(1), b = 16.729(3), c 21.026(2) Å, α = 70.194(10), β = 73.958(10), γ = 83.929(10)°, Z = 4) and *mer*-$(n\text{-}Bu_4N)_2[ReCl_3I(NCSe)_2^{cis}]$ (monoclinic, space group $P2_1/c$, a = 11.838(1), b = 12.796(2), c = 30.767(2) Å, β = 97.419(6)°, Z = 4) have been determined by single crystal X-ray diffraction analysis. Based on the molecular parameters of the X-ray determinations the low temperature (10 K) IR and Raman spectra of the $(n\text{-}Bu_4N)$ salts have been assigned by normal coordinate analysis. The valence force constants are f_d(ReN) = 1.79 (**1**), 1.71 (**2**), 1.71 (**3**) and f_d(ReSe) = 1.15 (**2**) mdyn/Å.