

Table 9.1 – continued from previous page

| | | | | | | |
|--|---|--------------------|----|---|---|---|
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| | | Irrep | I | N | N | |
| | | NUC | I | N | Y | Index of the nuclei |
| | | Elms | I | N | Y | Atomic number of the nuclei |
| | | SDSO | AD | N | Y | Diamagnetic contribution |
| | | SPSO | AD | N | Y | Paramagnetic contribution |
| | | STot | AD | N | Y | Total tensor |
| | | orientation | AD | N | Y | Eigenvectors |
| | | sTotEigen | AD | N | Y | Eigenvalues |
| | | siso | D | N | Y | |
| | | saniso | D | N | Y | |
| MRCI_D_Tensor [D_Tensor] | Y | d_raw | AD | N | N | |
| | | d_eigenvalues | AD | N | N | |
| | | d_eigenvectors | AD | N | N | |
| | | D | D | N | N | |
| | | E | D | N | N | |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| | | Irrep | I | N | N | |
| MRCI_G_Tensor [G_Tensor] | Y | g_matrix | AD | N | N | |
| | | g_elec | D | N | N | The free electron g-value contribution |
| | | g_RMC | D | N | N | The reduced mass correction |
| | | g_DSO | AD | N | N | |
| | | g_PSO | AD | N | N | |
| | | g_Tot | AD | N | N | |
| | | g_iso | D | N | N | |
| | | Delta_g | AD | N | N | |
| | | Delta_g_iso | D | N | N | |
| | | orientation | AD | N | N | |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| | | Irrep | I | N | N | |
| MRCI_Spin_Spin_Coupling [Spin_Spin_Coupling] | Y | numOfNucPairs | I | N | N | Number of nuclei pairs to calculate |
| | | numOfNucPairsDSO | I | N | N | number of nuclear pairs to calculate DSO |
| | | numOfNucPairsPSO | I | N | N | number of nuclear pairs to calculate PSO |
| | | numOfNucPairsFC | I | N | N | number of nuclear pairs to calculate FC |
| | | numOfNucPairsSD | I | N | N | number of nuclear pairs to calculate SD |
| | | numOfNucPairsSD_FC | I | N | N | number of nuclear pairs to calculate SD/FC |
| | | pairsInfo | AI | N | N | Pairs Info: Col1->Index of A. Col2->Atom. Num. of A. Col3->Index of B. Col4->Atom. Num. of B. |
| | | pairsDistances | AD | N | N | The distances of each pair |
| | | pairsTotalSSCIso | AD | N | N | The Spin-Spin coupling constant for each pair |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| | | Irrep | I | N | N | |
| D_Tensor_MRCI_2ndOrder [D_Tensor] | Y | d_raw | AD | N | N | |
| | | d_eigenvalues | AD | N | N | |
| | | d_eigenvectors | AD | N | N | |

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Table 9.1 – continued from previous page

| | | | | | | |
|---|---|--------------------|----|---|---|--|
| D_Tensor_MRCI_2ndOrder_ES [D_Tensor] | Y | D | D | N | N | |
| | | E | D | N | N | |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| | | Irrep | I | N | N | |
| | | d_raw | AD | N | N | |
| | | d_eigenvalues | AD | N | N | |
| | | d_eigenvectors | AD | N | N | |
| | | D | D | N | N | |
| | | E | D | N | N | |
| D_Tensor_MRCI_Heff [D_Tensor] | Y | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| | | Irrep | I | N | N | |
| | | d_raw | AD | N | N | |
| | | d_eigenvalues | AD | N | N | |
| | | d_eigenvectors | AD | N | N | |
| | | D | D | N | N | |
| | | E | D | N | N | |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| D_Tensor_MRCI_Heff_ES [D_Tensor] | Y | Mult | I | N | N | |
| | | State | I | N | N | |
| | | Irrep | I | N | N | |
| | | d_raw | AD | N | N | |
| | | d_eigenvalues | AD | N | N | |
| | | d_eigenvectors | AD | N | N | |
| | | D | D | N | N | |
| | | E | D | N | N | |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| MRCI_Absorption_Spectrum [Absorption_Spectrum] | Y | Irrep | I | N | N | |
| | | Method | I | N | N | |
| | | RelCorrection | I | N | N | Type of relativistic treatment in QDPT. 0->Unknow, 1->None, 2->SOC, 3->SSC, 4->SOC/SSC |
| | | DensType | I | N | N | Type of density (electron/spin ...). 0->Unknow, 1->Electronic, 2->Spin, 3->Trans/Electronic, 4->Tran/Spin |
| | | DeriType | I | N | N | Type of derivative (w.r.t. to what perturbation). 0->Unknown, 1->No Derivative, 2->Electric/Dipole, 3->Electric/Quad, 4->Magnetic/Dipole, 5->Magnetic/Quad |
| | | DensLevel | I | N | N | // Source of density: relaxed, unrelaxed, ... 0->Unknown, 1->Linearized, 2->Unrelaxed, 3->Relaxed |
| | | Density_name | S | N | N | |
| | | Representation | S | N | N | Possible values: Unknown, Length, Velocity |
| | | PointGroup | S | N | N | |
| | | DoHigherMoments | B | N | N | |
| | | NTrans | I | N | N | |
| | | ExcitationEnergies | AD | N | N | |

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Table 9.1 – continued from previous page

| | | | | | | |
|----------------------------------|---|--------------------|----|---|---|--|
| MRCI_ECD_Spectrum [ECD_Spectrum] | Y | States | AI | N | N | The initial and Final states. Col1: Initial State Col2: Initial Irrep Col3: Final State Col4: Final Irrep |
| | | Multiplicities | AD | N | N | Col1: Multiplicity of the initial state Col2: Multiplicity of the final state |
| | | Temperature | D | N | N | |
| | | Method | I | N | N | |
| | | RelCorrection | I | N | N | Type of relativistic treatment in QDPT. 0->Unknow, 1->None, 2->SOC, 3->SSC, 4->SOC/SSC |
| | | DensType | I | N | N | Type of density (electron/spin ...). 0->Unknow, 1->Electronic, 2->Spin, 3->Trans/Electronic, 4->Tran/Spin |
| | | DeriType | I | N | N | Type of derivative (w.r.t. to what perturbation). 0->Unknown, 1->No Derivative, 2->Electric/Dipole, 3->Electric/Quad, 4->Magnetic/Dipole, 5->Magnetic/Quad |
| | | DensLevel | I | N | N | // Source of density: relaxed, unrelaxed, ... 0->Unknown, 1->Linearized, 2->Unrelaxed, 3->Relaxed |
| | | Density_name | S | N | N | |
| | | Representation | S | N | N | Possible values: Unknown, Length, Velocity |
| | | PointGroup | S | N | N | |
| | | DoHigherMoments | B | N | N | |
| | | NTrans | I | N | N | |
| | | ExcitationEnergies | AD | N | N | |
| Nuclear_Gradient | Y | States | AI | N | N | The initial and Final states. Col1: Initial State Col2: Initial Irrep Col3: Final State Col4: Final Irrep |
| | | Multiplicities | AD | N | N | Col1: Multiplicity of the initial state Col2: Multiplicity of the final state |
| | | Temperature | D | N | N | |
| | | NAtoms | I | N | N | |
| | | gradNorm | D | N | N | |
| | | grad | AD | N | N | |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| CHELPG_Population_Analysis | Y | Irrep | I | N | N | |
| | | NAtoms | I | N | N | |
| | | ATNO | AI | N | N | |
| | | AtomicCharges | AD | N | N | |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| | | Irrep | I | N | N | |
| | | NAtoms | I | N | N | |
| Hirshfeld_Population_Analysis | Y | ATNO | AI | N | N | |
| | | DENSA | D | N | N | Total integrated alpha density |
| | | | | | | |

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Table 9.1 – continued from previous page

| | | | | | | |
|------------------------------|---|-------------------|----|---|---|---|
| Loewdin_Population_Analysis | Y | DENSB | D | N | N | Total integrated beta density |
| | | AtomicCharges | AD | N | N | |
| | | Spin | AD | N | N | |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| | | Irrep | I | N | N | |
| | | NAtoms | I | N | N | |
| | | ATNO | AI | N | N | |
| | | AtomicCharges | AD | N | N | |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| Mayer_Population_Analysis | Y | Irrep | I | N | N | |
| | | NAtoms | I | N | N | Total number of atoms |
| | | NBondOrdersPrint | I | N | N | The number of bond orders larger than threshold |
| | | bondThresh | D | N | N | The threshold for printing |
| | | components | AI | Y | N | The indices and atomic numbers of the bonding atoms |
| | | BondOrders | AD | Y | N | The bond orders |
| | | ATNO | AI | N | N | Atomic number of the elements |
| | | NA | AD | N | N | Mulliken gross atomic population |
| | | ZA | AD | N | N | Total nuclear charge |
| | | QA | AD | N | N | Mulliken gross atomic charge |
| | | VA | AD | N | N | Mayer's total valence |
| | | BVA | AD | N | N | Mayer's bonded valence |
| | | FA | AD | N | N | Mayer's free valence |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| MBIS_Population_Analysis | Y | Mult | I | N | N | |
| | | State | I | N | N | |
| | | Irrep | I | N | N | |
| | | NAtoms | I | N | N | |
| | | ATNO | AI | N | N | |
| | | Thresh | D | N | N | |
| | | Niter | I | N | N | |
| | | LargePrint | B | N | N | |
| | | DENSA | D | N | N | Total integrated alpha density |
| | | DENSB | D | N | N | Total integrated beta density |
| | | AtomicCharges | AD | N | N | |
| | | Spin | AD | N | N | |
| | | NPOPVAL | AD | N | N | |
| | | SIGMAVAL | AD | N | N | |
| | | AtomicDipole | AD | Y | N | |
| Mulliken_Population_Analysis | Y | AtomicQuadrupole | AD | Y | N | |
| | | AtomicOctupole | AD | Y | N | |
| | | ThirdRadialMoment | AD | Y | N | |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| | | Irrep | I | N | N | |
| | | NAtoms | I | N | N | |
| | | ATNO | AI | N | N | |
| | | AtomicCharges | AD | N | N | |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| | | Irrep | I | N | N | |

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Table 9.1 – continued from previous page

| | | | | | | |
|--|---|---------------------|----|---|---|--|
| RASCI_Nuc_Gradient [Nuclear_Gradient] | Y | NAtoms | I | N | N | |
| | | gradNorm | D | N | N | |
| | | grad | AD | N | N | |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| RASCI_Dipole_Moment [Dipole_Moment] | Y | Irrep | I | N | N | |
| | | dipoleMagnitude | D | N | N | a.u. |
| | | dipoleElecContrib | AD | N | N | Electronic contribution |
| | | dipoleNucContrib | AD | N | N | Nuclear contribution |
| | | dipoleTotal | AD | N | N | Total |
| | | doAtomicDipole | B | N | N | |
| | | atomicDipole | AD | Y | N | Atomic dipoles (NAtoms * X,Y,Z) |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| RASCI_EFG_Tensor [EFG_Tensor] | Y | State | I | N | N | |
| | | Irrep | I | N | N | |
| | | numOfNuCs | I | N | N | Number of active nuclei |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| | | Irrep | I | N | N | |
| | | NUC | I | N | Y | Index of the nuclei |
| | | Elms | I | N | Y | Atomic number of the nuclei |
| | | Isotope | D | N | Y | Atomic mass |
| | | I | D | N | Y | Spin of the nuclei |
| | | QFAC | D | N | Y | Prefactor |
| | | V | AD | N | Y | Raw tensor |
| | | VEigenvalues | AD | N | Y | Eigenvalues |
| RASCI_Polarizability [Polarizability] | Y | orientation | AD | N | Y | Eigenvectors |
| | | VISO | D | N | Y | |
| | | isotropicPolar | D | N | N | |
| | | rawCartesian | AD | N | N | a.u. |
| | | diagonalizedTensor | AD | N | N | |
| | | orientation | AD | N | N | |
| | | doAtomicPolar | B | N | N | |
| | | atomicPolarIso | AD | Y | N | Atomic isotropic polar- izabilities |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| RASCI_Quadrupole_Moment [Quadrupole_Moment] | Y | Mult | I | N | N | |
| | | State | I | N | N | |
| | | Irrep | I | N | N | |
| | | isotropicQuadMoment | D | N | N | a.u. |
| | | quadElecContrib | AD | N | N | Electronic contribution. Order: XX, YY, ZZ, XY, XZ, YZ |
| | | quadNucContrib | AD | N | N | Nuclear contribution. Order: XX, YY, ZZ, XY, XZ, YZ |
| | | quadTotal | AD | N | N | Total. Order: XX, YY, ZZ, XY, XZ, YZ |
| | | quadDiagonalized | AD | N | N | The diagonalized tensor |
| | | doAtomicQuad | B | N | N | |
| | | atomicQuad | AD | Y | N | Atomic quadrupoles (NAtoms * XX, YY, ZZ, XY, XZ, YZ) |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| RASCI_A_Tensor [A_Tensor] | Y | Mult | I | N | N | |
| | | State | I | N | N | |
| | | Irrep | I | N | N | |
| | | numOfNuCs | I | N | N | Number of active nuclei |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |

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Table 9.1 – continued from previous page

| | | | | | | |
|---------------------------|---|--------------------|----|---|---|---|
| | | State | I | N | N | |
| | | Irrep | I | N | N | |
| | | NUC | I | N | Y | Index of the nuclei |
| | | Elem | I | N | Y | Atomic number of the nuclei |
| | | Isotope | D | N | Y | Atomic mass |
| | | I | D | N | Y | Spin of the nuclei |
| | | PFAC | D | N | Y | Prefactor PFAC=geg/Nbe*bN (in MHz) |
| | | ARaw | AD | N | Y | Raw tensor |
| | | AEigenvalues | AD | N | Y | Eigenvalues |
| | | orientation | AD | N | Y | Eigenvectors |
| | | AIso | D | N | Y | |
| RASCI_Chemical_Shift | Y | d_raw | AD | N | N | |
| [Chemical_Shift] | | d_eigenvalues | AD | N | N | |
| | | d_eigenvectors | AD | N | N | |
| | | D | D | N | N | |
| | | E | D | N | N | |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| | | Irrep | I | N | N | |
| RASCI_D_Tensor [D_Tensor] | Y | d_raw | AD | N | N | |
| | | d_eigenvalues | AD | N | N | |
| | | d_eigenvectors | AD | N | N | |
| | | D | D | N | N | |
| | | E | D | N | N | |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| | | Irrep | I | N | N | |
| RASCI_G_Tensor [G_Tensor] | Y | g_matrix | AD | N | N | |
| | | g_elec | D | N | N | The free electron g-value contribution |
| | | g_RMC | D | N | N | The reduced mass cor- rection |
| | | g_DSO | AD | N | N | |
| | | g_PSO | AD | N | N | |
| | | g_Tot | AD | N | N | |
| | | g_iso | D | N | N | |
| | | Delta_g | AD | N | N | |
| | | Delta_g_iso | D | N | N | |
| | | orientation | AD | N | N | |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| | | Irrep | I | N | N | |
| RASCI_Spin_Spin_Coupling | Y | numOfNucPairs | I | N | N | Number of nuclei pairs to calculate |
| [Spin_Spin_Coupling] | | numOfNucPairsDSO | I | N | N | number of nuclear pairs to calculate DSO |
| | | numOfNucPairsPSO | I | N | N | number of nuclear pairs to calculate PSO |
| | | numOfNucPairsFC | I | N | N | number of nuclear pairs to calculate FC |
| | | numOfNucPairsSD | I | N | N | number of nuclear pairs to calculate SD |
| | | numOfNucPairsSD_FC | I | N | N | number of nuclear pairs to calculate SD/FC |
| | | pairsInfo | AI | N | N | Pairs Info: Col1->Index of A. Col2->Atom. Num. of A. Col3->Index of B. Col4->Atom. Num. of B. |
| | | pairsDistances | AD | N | N | The distances of each pair |

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Table 9.1 – continued from previous page

| | | | | | | |
|--|---|--------------------|----|---|---|--|
| RASCI_Absorption_Spectrum [Absorption_Spectrum] | Y | pairsTotalSSCIso | AD | N | N | The Spin-Spin coupling constant for each pair |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| | | Irrep | I | N | N | |
| | | Method | I | N | N | |
| | | RelCorrection | I | N | N | Type of relativistic treatment in QDPT. 0->Unknow, 1->None, 2->SOC, 3->SSC, 4->SOC/SSC |
| | | DensType | I | N | N | Type of density (electron/spin ...). 0->Unknow, 1->Electronic, 2->Spin, 3->Trans/Electronic, 4->Tran/Spin |
| | | DeriType | I | N | N | Type of derivative (w.r.t. to what perturbation). 0->Unknown, 1->No Derivative, 2->Electric/Dipole, 3->Electric/Quad, 4->Magnetic/Dipole, 5->Magnetic/Quad |
| | | DensLevel | I | N | N | // Source of density: relaxed, unrelaxed, ... 0->Unknown, 1->Linearized, 2->Unrelaxed, 3->Relaxed |
| | | Density_name | S | N | N | |
| | | Representation | S | N | N | Possible values: Unknown, Length, Velocity |
| | | PointGroup | S | N | N | |
| | | DoHigherMoments | B | N | N | |
| | | NTrans | I | N | N | |
| | | ExcitationEnergies | AD | N | N | |
| | | States | AI | N | N | The initial and Final states. Col1: Initial State Col2: Initial Irrep Col3: Final State Col4: Final Irrep |
| | | Multiplicities | AD | N | N | Col1: Multiplicity of the initial state Col2: Multiplicity of the final state |
| | | Temperature | D | N | N | |
| RASCI_ECD_Spectrum [ECD_Spectrum] | Y | Method | I | N | N | |
| | | RelCorrection | I | N | N | Type of relativistic treatment in QDPT. 0->Unknow, 1->None, 2->SOC, 3->SSC, 4->SOC/SSC |
| | | DensType | I | N | N | Type of density (electron/spin ...). 0->Unknow, 1->Electronic, 2->Spin, 3->Trans/Electronic, 4->Tran/Spin |
| | | DeriType | I | N | N | Type of derivative (w.r.t. to what perturbation). 0->Unknown, 1->No Derivative, 2->Electric/Dipole, 3->Electric/Quad, 4->Magnetic/Dipole, 5->Magnetic/Quad |
| | | | | | | |

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Table 9.1 – continued from previous page

| | | | | | | |
|--|---|---------------------|----|---|---|---|
| | | DensLevel | I | N | N | // Source of density: relaxed, unrelaxed, ... 0->Unknown, 1->Linearized, 2-> >Unrelaxed, 3->Relaxed |
| | | Density_name | S | N | N | |
| | | Representation | S | N | N | Possible values: Un- known, Length, Velocity |
| | | PointGroup | S | N | N | |
| | | DoHigherMoments | B | N | N | |
| | | NTrans | I | N | N | |
| | | ExcitationEnergies | AD | N | N | |
| | | States | AI | N | N | The initial and Final states. Col1: Initial State Col2: Initial Irrep Col3: Final State Col4: Final Irrep |
| | | Multiplicities | AD | N | N | Col1: Multiplicity of the initial state Col2: Multi- plicity of the final state |
| ROCIS_Energies | N | Temperature | D | N | N | |
| | | refEnergy | D | N | N | |
| | | corrEnergy | D | N | N | |
| | | totalEnergy | D | N | N | |
| | | numOfRoots | I | N | N | |
| | | Energies | AD | N | N | State energies in Hartree |
| | | Multiplicities | AI | N | N | |
| ROCIS_Dipole_Moment [Dipole_Moment] | Y | dipoleMagnitude | D | N | N | a.u. |
| | | dipoleElecContrib | AD | N | N | Electronic contribution |
| | | dipoleNucContrib | AD | N | N | Nuclear contribution |
| | | dipoleTotal | AD | N | N | Total |
| | | doAtomicDipole | B | N | N | |
| | | atomicDipole | AD | Y | N | Atomic dipoles (NAtoms * X,Y,Z) |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| | | Irrep | I | N | N | |
| ROCIS_EFG_Tensor [EFG_Tensor] | Y | numOfNuCs | I | N | N | Number of active nuclei |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| | | Irrep | I | N | N | |
| | | NUC | I | N | Y | Index of the nuclei |
| | | Elms | I | N | Y | Atomic number of the nuclei |
| | | Isotope | D | N | Y | Atomic mass |
| | | I | D | N | Y | Spin of the nuclei |
| | | QFAC | D | N | Y | Prefactor |
| | | V | AD | N | Y | Raw tensor |
| | | VEigenvalues | AD | N | Y | Eigenvalues |
| | | orientation | AD | N | Y | Eigenvectors |
| | | VISO | D | N | Y | |
| ROCIS_Polarizability [Polarizability] | Y | isotropicPolar | D | N | N | |
| | | rawCartesian | AD | N | N | a.u. |
| | | diagonalizedTensor | AD | N | N | |
| | | orientation | AD | N | N | |
| | | doAtomicPolar | B | N | N | |
| | | atomicPolarIso | AD | Y | N | Atomic isotropic polar- izabilities |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| | | Irrep | I | N | N | |
| ROCIS_Quadrupole_Moment [Quadrupole_Moment] | Y | isotropicQuadMoment | D | N | N | a.u. |
| | | quadElecContrib | AD | N | N | Electronic contribution. Order: XX, YY, ZZ, XY, XZ, YZ |

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Table 9.1 – continued from previous page

| | | | | | | |
|--|---|------------------|----|---|---|--|
| ROCIS_A_Tensor [A_Tensor] | Y | quadNucContrib | AD | N | N | Nuclear contribution. Order: XX, YY, ZZ, XY, XZ, YZ |
| | | quadTotal | AD | N | N | Total. Order: XX, YY, ZZ, XY, XZ, YZ |
| | | quadDiagonalized | AD | N | N | The diagonalized tensor a.u. |
| | | doAtomicQuad | B | N | N | |
| | | atomicQuad | AD | Y | N | Atomic quadrupoles (NAtoms * XX, YY, ZZ, XY, XZ, YZ) |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| | | Irrep | I | N | N | |
| | | numOfNucs | I | N | N | Number of active nuclei |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| | | Irrep | I | N | N | |
| | | NUC | I | N | Y | Index of the nuclei |
| | | Elem | I | N | Y | Atomic number of the nuclei |
| | | Isotope | D | N | Y | Atomic mass |
| | | I | D | N | Y | Spin of the nuclei |
| ROCIS_Chemical_Shift [Chemical_Shift] | Y | PFAC | D | N | Y | Prefactor PFAC=geg/Nbe*bN (in MHz) |
| | | ARaw | AD | N | Y | Raw tensor |
| | | AEigenvalues | AD | N | Y | Eigenvalues |
| | | orientation | AD | N | Y | Eigenvectors |
| | | AIso | D | N | Y | |
| | | numOfNucs | I | N | N | |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| ROCIS_D_Tensor [D_Tensor] | Y | Irrep | I | N | N | |
| | | NUC | I | N | Y | Index of the nuclei |
| | | Elms | I | N | Y | Atomic number of the nuclei |
| | | SDSO | AD | N | Y | Diamagnetic contribu- tion |
| | | SPSO | AD | N | Y | Paramagnetic contribu- tion |
| | | STot | AD | N | Y | Total tensor |
| | | orientation | AD | N | Y | Eigenvectors |
| | | sTotEigen | AD | N | Y | Eigenvalues |
| | | siso | D | N | Y | |
| | | saniso | D | N | Y | |
| ROCIS_G_Tensor [G_Tensor] | Y | d_raw | AD | N | N | |
| | | d_eigenvalues | AD | N | N | |
| | | d_eigenvectors | AD | N | N | |
| | | D | D | N | N | |
| | | E | D | N | N | |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| | | Irrep | I | N | N | |
| | Y | g_matrix | AD | N | N | |
| | | g_elec | D | N | N | The free electron g-value contribution |
| | | g_RMC | D | N | N | The reduced mass cor- rection |
| | | g_DSO | AD | N | N | |
| | | g_PSO | AD | N | N | |
| | | g_Tot | AD | N | N | |
| | | g_iso | D | N | N | |
| | | Delta_g | AD | N | N | |

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Table 9.1 – continued from previous page

| | | | | | | |
|--|---|--------------------|----|---|---|--|
| ROCIS_Spin_Spin_Coupling [Spin_Spin_Coupling] | Y | Delta_g_iso | D | N | N | |
| | | orientation | AD | N | N | |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| | | Irrep | I | N | N | |
| | | numOfNucPairs | I | N | N | Number of nuclei pairs to calculate |
| | | numOfNucPairsDSO | I | N | N | number of nuclear pairs to calculate DSO |
| | | numOfNucPairsPSO | I | N | N | number of nuclear pairs to calculate PSO |
| | | numOfNucPairsFC | I | N | N | number of nuclear pairs to calculate FC |
| | | numOfNucPairsSD | I | N | N | number of nuclear pairs to calculate SD |
| | | numOfNucPairsSD_FC | I | N | N | number of nuclear pairs to calculate SD/FC |
| | | pairsInfo | AI | N | N | Pairs Info: Col1->Index of A. Col2->Atom. Num. of A. Col3->Index of B. Col4->Atom. Num. of B. |
| | | pairsDistances | AD | N | N | The distances of each pair |
| | | pairsTotalSSCIso | AD | N | N | The Spin-Spin coupling constant for each pair |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| ROCIS_Absorption_Spectrum [Absorption_Spectrum] | Y | Irrep | I | N | N | |
| | | Method | I | N | N | |
| | | RelCorrection | I | N | N | Type of relativistic treatment in QDPT. 0->Unknow, 1->None, 2->SOC, 3->SSC, 4->SOC/SSC |
| | | DensType | I | N | N | Type of density (electron/spin ...). 0->Unknow, 1->Electronic, 2->Spin, 3->Trans/Electronic, 4->Tran/Spin |
| | | DeriType | I | N | N | Type of derivative (w.r.t. to what perturbation). 0->Unknown, 1->No Derivative, 2->Electric/Dipole, 3->Electric/Quad, 4->Magnetic/Dipole, 5->Magnetic/Quad |
| | | DensLevel | I | N | N | // Source of density: relaxed, unrelaxed, ... 0->Unknown, 1->Linearized, 2->Unrelaxed, 3->Relaxed |
| | | Density_name | S | N | N | |
| | | Representation | S | N | N | Possible values: Unknown, Length, Velocity |
| | | PointGroup | S | N | N | |
| | | DoHigherMoments | B | N | N | |
| | | NTrans | I | N | N | |
| | | ExcitationEnergies | AD | N | N | |
| | | States | AI | N | N | The initial and Final states. Col1: Initial State Col2: Initial Irrep Col3: Final State Col4: Final Irrep |

continues on next page

Table 9.1 – continued from previous page

| | | | | | | |
|----------------------------------|---|--------------------|----|---|---|--|
| ROCIS_ECD_Spectrum[ECD_Spectrum] | Y | Multiplicities | AD | N | N | Col1: Multiplicity of the initial state Col2: Multiplicity of the final state |
| | | Temperature | D | N | N | |
| | | Method | I | N | N | |
| | | RelCorrection | I | N | N | Type of relativistic treatment in QDPT. 0->Unknow, 1->None, 2->SOC, 3->SSC, 4->SOC/SSC |
| | | DensType | I | N | N | Type of density (electron/spin ...). 0->Unknow, 1->Electronic, 2->Spin, 3->Trans/Electronic, 4->Tran/Spin |
| | | DeriType | I | N | N | Type of derivative (w.r.t. to what perturbation). 0->Unknown, 1->No Derivative, 2->Electric/Dipole, 3->Electric/Quad, 4->Magnetic/Dipole, 5->Magnetic/Quad |
| | | DensLevel | I | N | N | // Source of density: relaxed, unrelaxed, ... 0->Unknown, 1->Linearized, 2->Unrelaxed, 3->Relaxed |
| | | Density_name | S | N | N | |
| | | Representation | S | N | N | Possible values: Unknown, Length, Velocity |
| | | PointGroup | S | N | N | |
| | | DoHigherMoments | B | N | N | |
| | | NTrans | I | N | N | |
| | | ExcitationEnergies | AD | N | N | |
| | | States | AI | N | N | The initial and Final states. Col1: Initial State Col2: Initial Irrep Col3: Final State Col4: Final Irrep |
| | | Multiplicities | AD | N | N | Col1: Multiplicity of the initial state Col2: Multiplicity of the final state |
| RPA_Dipole_Moment[Dipole_Moment] | Y | Temperature | D | N | N | |
| | | dipoleMagnitude | D | N | N | a.u. |
| | | dipoleElecContrib | AD | N | N | Electronic contribution |
| | | dipoleNucContrib | AD | N | N | Nuclear contribution |
| | | dipoleTotal | AD | N | N | Total |
| | | doAtomicDipole | B | N | N | |
| | | atomicDipole | AD | Y | N | Atomic dipoles (NAtoms * X,Y,Z) |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| RPA_EFG_Tensor[EFG_Tensor] | Y | State | I | N | N | |
| | | Irrep | I | N | N | |
| | | numOfNucs | I | N | N | Number of active nuclei |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| | | Irrep | I | N | N | |
| | | NUC | I | N | Y | Index of the nuclei |
| | | Elms | I | N | Y | Atomic number of the nuclei |
| | | Isotope | D | N | Y | Atomic mass |
| | | I | D | N | Y | Spin of the nuclei |
| | | QFAC | D | N | Y | Prefactor |
| | | V | AD | N | Y | Raw tensor |
| | | VEigenvalues | AD | N | Y | Eigenvalues |

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Table 9.1 – continued from previous page

| | | | | | | |
|--|---|---------------------|----|---|---|--|
| RPA_Polarizability [Polarizability] | Y | orientation | AD | N | Y | Eigenvectors |
| | | VIso | D | N | Y | |
| | | isotropicPolar | D | N | N | |
| | | rawCartesian | AD | N | N | a.u. |
| | | diagonalizedTensor | AD | N | N | |
| | | orientation | AD | N | N | |
| | | doAtomicPolar | B | N | N | |
| | | atomicPolarIso | AD | Y | N | Atomic isotropic polarizabilities |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| | | Irrep | I | N | N | |
| | | isotropicQuadMoment | D | N | N | a.u. |
| RPA_Quadrupole_Moment [Quadrupole_Moment] | Y | quadElecContrib | AD | N | N | Electronic contribution. Order: XX, YY, ZZ, XY, XZ, YZ |
| | | quadNucContrib | AD | N | N | Nuclear contribution. Order: XX, YY, ZZ, XY, XZ, YZ |
| | | quadTotal | AD | N | N | Total. Order: XX, YY, ZZ, XY, XZ, YZ |
| | | quadDiagonalized | AD | N | N | The diagonalized tensor a.u. |
| | | doAtomicQuad | B | N | N | |
| | | atomicQuad | AD | Y | N | Atomic quadrupoles (NAtoms * XX, YY, ZZ, XY, XZ, YZ) |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| | | Irrep | I | N | N | |
| | | numOfNucs | I | N | N | Number of active nuclei |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| RPA_A_Tensor [A_Tensor] | Y | Mult | I | N | N | |
| | | State | I | N | N | |
| | | Irrep | I | N | N | |
| | | NUC | I | N | Y | Index of the nuclei |
| | | Elem | I | N | Y | Atomic number of the nuclei |
| | | Isotope | D | N | Y | Atomic mass |
| | | I | D | N | Y | Spin of the nuclei |
| | | PFAC | D | N | Y | Prefactor PFAC=geg/Nbe*bN (in MHz) |
| | | ARaw | AD | N | Y | Raw tensor |
| | | AEigenvalues | AD | N | Y | Eigenvalues |
| | | orientation | AD | N | Y | Eigenvectors |
| | | AIso | D | N | Y | |
| | | numOfNucs | I | N | N | |
| | | Method | S | N | N | |
| RPA_Chemical_Shift [Chemical_Shift] | Y | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| | | Irrep | I | N | N | |
| | | NUC | I | N | Y | Index of the nuclei |
| | | Elms | I | N | Y | Atomic number of the nuclei |
| | | SDSO | AD | N | Y | Diamagnetic contribu- tion |
| | | SPSO | AD | N | Y | Paramagnetic contribu- tion |
| | | STot | AD | N | Y | Total tensor |
| | | orientation | AD | N | Y | Eigenvectors |
| | | sTotEigen | AD | N | Y | Eigenvalues |
| | | siso | D | N | Y | |
| | | saniso | D | N | Y | |
| | | d_raw | AD | N | N | |
| RPA_D_Tensor [D_Tensor] | Y | d_eigenvalues | AD | N | N | |

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Table 9.1 – continued from previous page

| | | | | | | |
|---|---|--------------------|----|---|---|--|
| | | d_eigenvectors | AD | N | N | |
| | | D | D | N | N | |
| | | E | D | N | N | |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| | | Irrep | I | N | N | |
| RPA_G_Tensor [G_Tensor] | Y | g_matrix | AD | N | N | |
| | | g_elec | D | N | N | The free electron g-value contribution |
| | | g_RMC | D | N | N | The reduced mass correction |
| | | g_DSO | AD | N | N | |
| | | g_PSO | AD | N | N | |
| | | g_Tot | AD | N | N | |
| | | g_iso | D | N | N | |
| | | Delta_g | AD | N | N | |
| | | Delta_g_iso | D | N | N | |
| | | orientation | AD | N | N | |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| | | Irrep | I | N | N | |
| RPA_Spin_Spin_Coupling [Spin_Spin_Coupling] | Y | numOfNucPairs | I | N | N | Number of nuclei pairs to calculate |
| | | numOfNucPairsDSO | I | N | N | number of nuclear pairs to calculate DSO |
| | | numOfNucPairsPSO | I | N | N | number of nuclear pairs to calculate PSO |
| | | numOfNucPairsFC | I | N | N | number of nuclear pairs to calculate FC |
| | | numOfNucPairsSD | I | N | N | number of nuclear pairs to calculate SD |
| | | numOfNucPairsSD_FC | I | N | N | number of nuclear pairs to calculate SD/FC |
| | | pairsInfo | AI | N | N | Pairs Info: Col1->Index of A. Col2->Atom. Num. of A. Col3->Index of B. Col4->Atom. Num. of B. |
| | | pairsDistances | AD | N | N | The distances of each pair |
| | | pairsTotalSSCIso | AD | N | N | The Spin-Spin coupling constant for each pair |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| | | Irrep | I | N | N | |
| RPA_Absorption_Spectrum [Absorption_Spectrum] | Y | Method | I | N | N | |
| | | RelCorrection | I | N | N | Type of relativistic treatment in QDPT. 0->Unknow, 1->None, 2->SOC, 3->SSC, 4->SOC/SSC |
| | | DensType | I | N | N | Type of density (electron/spin ...). 0->Unknow, 1->Electronic, 2->Spin, 3->Trans/Electronic, 4->Tran/Spin |
| | | DeriType | I | N | N | Type of derivative (w.r.t. to what perturbation). 0->Unknown, 1->No Derivative, 2->Electric/Dipole, 3->Electric/Quad, 4->Magnetic/Dipole, 5->Magnetic/Quad |

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Table 9.1 – continued from previous page

| | | | | | | |
|---------------------------------|---|--------------------|----|---|---|--|
| RPA_ECD_Spectrum [ECD_Spectrum] | Y | DensLevel | I | N | N | // Source of density: relaxed, unrelaxed, ... 0->Unknown, 1->Linearized, 2-> Unrelaxed, 3->Relaxed |
| | | Density_name | S | N | N | |
| | | Representation | S | N | N | Possible values: Un- known, Length, Velocity |
| | | PointGroup | S | N | N | |
| | | DoHigherMoments | B | N | N | |
| | | NTrans | I | N | N | |
| | | ExcitationEnergies | AD | N | N | |
| | | States | AI | N | N | The initial and Final states. Col1: Initial State Col2: Initial Irrep Col3: Final State Col4: Final Irrep |
| | | Multiplicities | AD | N | N | Col1: Multiplicity of the initial state Col2: Multi- plicity of the final state |
| | | Temperature | D | N | N | |
| | | Method | I | N | N | |
| | | RelCorrection | I | N | N | Type of relativistic treatment in QDPT. 0->Unknown, 1->None, 2->SOC, 3->SSC, 4->SOC/SSC |
| | | DensType | I | N | N | Type of density (electron/spin ...). 0->Unknown, 1-> Electronic, 2->Spin, 3->Trans/Electronic, 4->Tran/Spin |
| | | DeriType | I | N | N | Type of derivative (w.r.t. to what pertur- bation). 0->Unknown, 1->No Derivative, 2->Electric/Dipole, 3->Electric/Quad, 4-> Magnetic/Dipole, 5->Magnetic/Quad |
| | | DensLevel | I | N | N | // Source of density: relaxed, unrelaxed, ... 0->Unknown, 1->Linearized, 2-> Unrelaxed, 3->Relaxed |
| | | Density_name | S | N | N | |
| | | Representation | S | N | N | Possible values: Un- known, Length, Velocity |
| | | PointGroup | S | N | N | |
| | | DoHigherMoments | B | N | N | |
| | | NTrans | I | N | N | |
| | | ExcitationEnergies | AD | N | N | |
| | | States | AI | N | N | The initial and Final states. Col1: Initial State Col2: Initial Irrep Col3: Final State Col4: Final Irrep |
| | | Multiplicities | AD | N | N | Col1: Multiplicity of the initial state Col2: Multi- plicity of the final state |
| | | Temperature | D | N | N | |
| | | Method | S | N | N | |
| Energy | Y | totalEnergy | AD | N | N | Total energy of each state |
| | | Mult | AI | Y | N | Multiplicity of each state |
| | | Irrep | AI | Y | N | Irreducible representa- tion of each state |
| | | RelCorr | S | Y | N | Relativistic correction (SOC and/or SSC) |
| | | NBlocks | I | Y | N | Number of multiplicity blocks |
| | | | | | | |
| | | | | | | |

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Table 9.1 – continued from previous page

| | | | | | | |
|-------------------------------------|---|--------------------|----|---|---|---|
| SCF_Energy [Energy] | Y | NRoots | AI | Y | N | Number of roots in each block |
| | | NTotalRoots | I | Y | N | Total number of roots |
| | | Block | AI | Y | N | Block index of each state |
| | | Root | AI | Y | N | Root index within the block |
| | | FollowIRoot | I | Y | N | Index of the followed root |
| | | AvgMult | AD | Y | N | Average multiplicity of each SO-/SS-coupled state |
| | | Method | S | N | N | |
| | | totalEnergy | AD | N | N | Total energy of each state |
| | | Mult | AI | Y | N | Multiplicity of each state |
| | | Irrep | AI | Y | N | Irreducible representation of each state |
| | | RelCorr | S | Y | N | Relativistic correction (SOC and/or SSC) |
| | | NBlocks | I | Y | N | Number of multiplicity blocks |
| | | NRoots | AI | Y | N | Number of roots in each block |
| | | NTotalRoots | I | Y | N | Total number of roots |
| | | Block | AI | Y | N | Block index of each state |
| | | Root | AI | Y | N | Root index within the block |
| | | FollowIRoot | I | Y | N | Index of the followed root |
| | | AvgMult | AD | Y | N | Average multiplicity of each SO-/SS-coupled state |
| | | | | | | |
| | | | | | | |
| SCF_Nuc_Gradient [Nuclear_Gradient] | Y | NAtoms | I | N | N | |
| | | gradNorm | D | N | N | |
| | | grad | AD | N | N | |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| SCF_Dipole_Moment [Dipole_Moment] | Y | Irrep | I | N | N | |
| | | dipoleMagnitude | D | N | N | a.u. |
| | | dipoleElecContrib | AD | N | N | Electronic contribution |
| | | dipoleNucContrib | AD | N | N | Nuclear contribution |
| | | dipoleTotal | AD | N | N | Total |
| | | doAtomicDipole | B | N | N | |
| | | atomicDipole | AD | Y | N | Atomic dipoles (NAtoms * X,Y,Z) |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| | | Irrep | I | N | N | |
| | | | | | | |
| SCF_EFG_Tensor [EFG_Tensor] | Y | numOfNucs | I | N | N | Number of active nuclei |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| | | Irrep | I | N | N | |
| | | NUC | I | N | Y | Index of the nuclei |
| | | Elms | I | N | Y | Atomic number of the nuclei |
| | | Isotope | D | N | Y | Atomic mass |
| | | I | D | N | Y | Spin of the nuclei |
| | | QFAC | D | N | Y | Prefactor |
| | | V | AD | N | Y | Raw tensor |
| | | VEigenvalues | AD | N | Y | Eigenvalues |
| | | orientation | AD | N | Y | Eigenvectors |
| | | Viso | D | N | Y | |
| | | | | | | |
| | | | | | | |
| SCF_Polarizability [Polarizability] | Y | isotropicPolar | D | N | N | |
| | | rawCartesian | AD | N | N | a.u. |
| | | diagonalizedTensor | AD | N | N | |
| | | orientation | AD | N | N | |

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Table 9.1 – continued from previous page

| | | | | | | |
|--|---|---------------------|----|---|---|--|
| SCF_Quadrupole_Moment [Quadrupole_Moment] | Y | doAtomicPolar | B | N | N | |
| | | atomicPolarIso | AD | Y | N | Atomic isotropic polarizabilities |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| | | Irrep | I | N | N | |
| | | isotropicQuadMoment | D | N | N | a.u. |
| | | quadElecContrib | AD | N | N | Electronic contribution. Order: XX, YY, ZZ, XY, XZ, YZ |
| | | quadNucContrib | AD | N | N | Nuclear contribution. Order: XX, YY, ZZ, XY, XZ, YZ |
| | | quadTotal | AD | N | N | Total. Order: XX, YY, ZZ, XY, XZ, YZ |
| | | quadDiagonalized | AD | N | N | The diagonalized tensor a.u. |
| | | doAtomicQuad | B | N | N | |
| | | atomicQuad | AD | Y | N | Atomic quadrupoles (NAtoms * XX, YY, ZZ, XY, XZ, YZ) |
| | | Method | S | N | N | |
| SCF_A_Tensor [A_Tensor] | Y | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| | | Irrep | I | N | N | |
| | | numOfNucs | I | N | N | Number of active nuclei |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| | | Irrep | I | N | N | |
| | | NUC | I | N | Y | Index of the nuclei |
| | | Elem | I | N | Y | Atomic number of the nuclei |
| | | Isotope | D | N | Y | Atomic mass |
| | | I | D | N | Y | Spin of the nuclei |
| | | PFAC | D | N | Y | Prefactor PFAC=geg/Nbe*bN (in MHz) |
| SCF_Chemical_Shift [Chemical_Shift] | Y | ARaw | AD | N | Y | Raw tensor |
| | | AEigenvalues | AD | N | Y | Eigenvalues |
| | | orientation | AD | N | Y | Eigenvectors |
| | | Also | D | N | Y | |
| | | numOfNucs | I | N | N | |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| | | Irrep | I | N | N | |
| | | NUC | I | N | Y | Index of the nuclei |
| | | Elms | I | N | Y | Atomic number of the nuclei |
| | | SDSO | AD | N | Y | Diamagnetic contribu- tion |
| | | SPSO | AD | N | Y | Paramagnetic contribu- tion |
| | | STot | AD | N | Y | Total tensor |
| SCF_D_Tensor [D_Tensor] | Y | orientation | AD | N | Y | Eigenvectors |
| | | sTotEigen | AD | N | Y | Eigenvalues |
| | | siso | D | N | Y | |
| | | saniso | D | N | Y | |
| | | d_raw | AD | N | N | |
| | | d_eigenvalues | AD | N | N | |
| | | d_eigenvectors | AD | N | N | |
| | | D | D | N | N | |
| | | E | D | N | N | |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |

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Table 9.1 – continued from previous page

| | | | | | | |
|---|---|--------------------|----|---|---|--|
| SCF_G_Tensor [G_Tensor] | Y | State | I | N | N | |
| | | Irrep | I | N | N | |
| | | g_matrix | AD | N | N | |
| | | g_elec | D | N | N | The free electron g-value contribution |
| | | g_RMC | D | N | N | The reduced mass correction |
| | | g_DSO | AD | N | N | |
| | | g_PSO | AD | N | N | |
| | | g_Tot | AD | N | N | |
| | | g_iso | D | N | N | |
| | | Delta_g | AD | N | N | |
| | | Delta_g_iso | D | N | N | |
| | | orientation | AD | N | N | |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| SCF_Spin_Spin_Coupling [Spin_Spin_Coupling] | Y | State | I | N | N | |
| | | Irrep | I | N | N | |
| | | numOfNucPairs | I | N | N | Number of nuclei pairs to calculate |
| | | numOfNucPairsDSO | I | N | N | number of nuclear pairs to calculate DSO |
| | | numOfNucPairsPSO | I | N | N | number of nuclear pairs to calculate PSO |
| | | numOfNucPairsFC | I | N | N | number of nuclear pairs to calculate FC |
| | | numOfNucPairsSD | I | N | N | number of nuclear pairs to calculate SD |
| | | numOfNucPairsSD_FC | I | N | N | number of nuclear pairs to calculate SD/FC |
| | | pairsInfo | AI | N | N | Pairs Info: Col1->Index of A. Col2->Atom. Num. of A. Col3->Index of B. Col4->Atom. Num. of B. |
| | | pairsDistances | AD | N | N | The distances of each pair |
| | | pairsTotalSSCIso | AD | N | N | The Spin-Spin coupling constant for each pair |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| SCF_Absorption_Spectrum [Absorption_Spectrum] | Y | State | I | N | N | |
| | | Irrep | I | N | N | |
| | | Method | I | N | N | |
| | | RelCorrection | I | N | N | Type of relativistic treatment in QDPT. 0->Unknown, 1->None, 2->SOC, 3->SSC, 4->SOC/SSC |
| | | DensType | I | N | N | Type of density (electron/spin ...). 0->Unknown, 1->Electronic, 2->Spin, 3->Trans/Electronic, 4->Tran/Spin |
| | | DeriType | I | N | N | Type of derivative (w.r.t. to what perturbation). 0->Unknown, 1->No Derivative, 2->Electric/Dipole, 3->Electric/Quad, 4->Magnetic/Dipole, 5->Magnetic/Quad |
| | | DensLevel | I | N | N | // Source of density: relaxed, unrelaxed, ... 0->Unknown, 1->Linearized, 2->Unrelaxed, 3->Relaxed |
| | | Density_name | S | N | N | |

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Table 9.1 – continued from previous page

| | | | | | | |
|---------------------------------|---|----------------------|----|---|---|--|
| SCF_ECD_Spectrum [ECD_Spectrum] | Y | Representation | S | N | N | Possible values: Un- known, Length, Velocity |
| | | PointGroup | S | N | N | |
| | | DoHigherMoments | B | N | N | |
| | | NTrans | I | N | N | |
| | | ExcitationEnergies | AD | N | N | |
| | | States | AI | N | N | The initial and Final states. Col1: Initial State Col2: Initial Irrep Col3: Final State Col4: Final Irrep |
| | | Multiplicities | AD | N | N | Col1: Multiplicity of the initial state Col2: Multi- plicity of the final state |
| | | Temperature | D | N | N | |
| | | Method | I | N | N | |
| | | RelCorrection | I | N | N | Type of relativistic treatment in QDPT. 0->Unknow, 1->None, 2->SOC, 3->SSC, 4->SOC/SSC |
| | | DensType | I | N | N | Type of density (electron/spin ...). 0->Unknow, 1- >Electronic, 2->Spin, 3->Trans/Electronic, 4->Tran/Spin |
| | | DeriType | I | N | N | Type of derivative (w.r.t. to what pertur- bation). 0->Unknown, 1->No Derivative, 2->Electric/Dipole, 3->Electric/Quad, 4- >Magnetic/Dipole, 5->Magnetic/Quad |
| | | DensLevel | I | N | N | // Source of density: relaxed, unrelaxed, ... 0->Unknown, 1->Linearized, 2- >Unrelaxed, 3->Relaxed |
| | | Density_name | S | N | N | |
| | | Representation | S | N | N | Possible values: Un- known, Length, Velocity |
| | | PointGroup | S | N | N | |
| | | DoHigherMoments | B | N | N | |
| | | NTrans | I | N | N | |
| | | ExcitationEnergies | AD | N | N | |
| | | States | AI | N | N | The initial and Final states. Col1: Initial State Col2: Initial Irrep Col3: Final State Col4: Final Irrep |
| | | Multiplicities | AD | N | N | Col1: Multiplicity of the initial state Col2: Multi- plicity of the final state |
| SOC_Energy_Correction | N | Temperature | D | N | N | |
| | | total_SOC_energy | D | N | N | |
| | | total_non_SOC_energy | D | N | N | |
| | | nuclear_energy | D | N | N | |
| | | SOC_correction | D | N | N | |
| Absorption_Spectrum | Y | Method | I | N | N | |
| | | RelCorrection | I | N | N | Type of relativistic treatment in QDPT. 0->Unknow, 1->None, 2->SOC, 3->SSC, 4->SOC/SSC |

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Table 9.1 – continued from previous page

| | | | | | | |
|--------------|---|--------------------|----|---|---|--|
| ECD_Spectrum | Y | DensType | I | N | N | Type of density (electron/spin ...). 0->Unknow, 1->Electronic, 2->Spin, 3->Trans/Electronic, 4->Tran/Spin |
| | | DeriType | I | N | N | Type of derivative (w.r.t. to what perturbation). 0->Unknown, 1->No Derivative, 2->Electric/Dipole, 3->Electric/Quad, 4->Magnetic/Dipole, 5->Magnetic/Quad |
| | | DensLevel | I | N | N | // Source of density: relaxed, unrelaxed, ... 0->Unknown, 1->Linearized, 2->Unrelaxed, 3->Relaxed |
| | | Density_name | S | N | N | |
| | | Representation | S | N | N | Possible values: Unknown, Length, Velocity |
| | | PointGroup | S | N | N | |
| | | DoHigherMoments | B | N | N | |
| | | NTrans | I | N | N | |
| | | ExcitationEnergies | AD | N | N | |
| | | States | AI | N | N | The initial and Final states. Col1: Initial State Col2: Initial Irrep Col3: Final State Col4: Final Irrep |
| | | Multiplicities | AD | N | N | Col1: Multiplicity of the initial state Col2: Multiplicity of the final state |
| | | Temperature | D | N | N | |
| | | Method | I | N | N | |
| | | RelCorrection | I | N | N | Type of relativistic treatment in QDPT. 0->Unknow, 1->None, 2->SOC, 3->SSC, 4->SOC/SSC |
| | | DensType | I | N | N | Type of density (electron/spin ...). 0->Unknow, 1->Electronic, 2->Spin, 3->Trans/Electronic, 4->Tran/Spin |
| | | DeriType | I | N | N | Type of derivative (w.r.t. to what perturbation). 0->Unknown, 1->No Derivative, 2->Electric/Dipole, 3->Electric/Quad, 4->Magnetic/Dipole, 5->Magnetic/Quad |
| | | DensLevel | I | N | N | // Source of density: relaxed, unrelaxed, ... 0->Unknown, 1->Linearized, 2->Unrelaxed, 3->Relaxed |
| | | Density_name | S | N | N | |
| | | Representation | S | N | N | Possible values: Unknown, Length, Velocity |
| | | PointGroup | S | N | N | |
| | | DoHigherMoments | B | N | N | |
| | | NTrans | I | N | N | |
| | | ExcitationEnergies | AD | N | N | |

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Table 9.1 – continued from previous page

| | | | | | | |
|---|---|-------------------|----|---|---|---|
| | | States | AI | N | N | The initial and Final states. Col1: Initial State Col2: Initial Irrep Col3: Final State Col4: Final Irrep |
| | | Multiplicities | AD | N | N | Col1: Multiplicity of the initial state Col2: Multiplicity of the final state |
| THERMOCHEMISTRY_Energies | Y | Temperature | D | N | N | |
| | | temperature | D | N | N | |
| | | pressure | D | N | N | |
| | | totalMass | D | N | N | |
| | | spinDegeneracy | I | N | N | |
| | | elEnergy | D | N | N | |
| | | transEnergy | D | N | N | |
| | | rotEnergy | D | N | N | |
| | | vibEnergy | D | N | N | |
| | | numOfFreqs | I | N | N | |
| | | freqScalingFactor | D | N | N | |
| | | FREQ | AD | N | N | cm ⁻¹ |
| | | zpe | D | N | N | |
| | | innerEnergyU | D | N | N | |
| | | enthalpyH | D | N | N | |
| | | qEl | D | N | N | |
| | | qRot | D | N | N | |
| | | qVib | D | N | N | |
| | | qTrans | D | N | N | |
| | | entropyS | D | N | N | |
| | | freeEnergyG | D | N | N | |
| VdW_Correction | N | isLinear | B | N | N | |
| | | vdW | D | N | N | |
| Calculation_Status | N | vdW_atomic | AD | Y | N | |
| | | version | S | N | N | |
| MDCI_EOM_Energies | Y | progName | S | N | N | |
| | | Status | S | N | N | |
| | | groundRefEnergy | D | N | N | Ground State Reference Energy |
| | | groundCorrEnergy | D | N | N | Ground State Correlation Energy |
| | | groundTotalEnergy | D | N | N | Ground State Total MDCI Energy |
| CASPT2_Dipole_Moment [Dipole_Moment] | Y | dipoleMagnitude | D | N | N | a.u. |
| | | dipoleElecContrib | AD | N | N | Electronic contribution |
| | | dipoleNucContrib | AD | N | N | Nuclear contribution |
| | | dipoleTotal | AD | N | N | Total |
| | | doAtomicDipole | B | N | N | |
| | | atomicDipole | AD | Y | N | Atomic dipoles (NAtoms * X,Y,Z) |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| | | State | I | N | N | |
| CAS_CUSTOM_Dipole_Moment [Dipole_Moment] | Y | Irrep | I | N | N | |
| | | dipoleMagnitude | D | N | N | a.u. |
| | | dipoleElecContrib | AD | N | N | Electronic contribution |
| | | dipoleNucContrib | AD | N | N | Nuclear contribution |
| | | dipoleTotal | AD | N | N | Total |
| | | doAtomicDipole | B | N | N | |
| | | atomicDipole | AD | Y | N | Atomic dipoles (NAtoms * X,Y,Z) |
| | | Method | S | N | N | |
| | | Level | S | N | N | |
| | | Mult | I | N | N | |
| CASPT2_G_Tensor [G_Tensor] | Y | State | I | N | N | |
| | | Irrep | I | N | N | |
| | | g_matrix | AD | N | N | |
| | | g_elec | D | N | N | The free electron g-value contribution |
| | | g_RMC | D | N | N | The reduced mass correction |
| | | | | | | |

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