Figure 4.1 (a): RKR, H-H, Extended- Rydberg & Zavitsas Potential energy Curves for the ground state InF molecule

Figure 4.1 (b): Percentage deviation of H-H, Extended- Rydberg & Zavitsas Potential energy curves for the ground state InF molecule
Figure 4.2 (a): RKR, H-H, Extended- Rydberg & Zavitsas Potential energy Curves for the ground state InCl molecule

Figure 4.2 (b): Percentage deviation of H-H, Extended- Rydberg & Zavitsas Potential energy curves for the ground state InCl molecule
Figure 4.3 (a): RKR, H-H, Extended- Rydberg & Zavitsas Potential energy Curves for the ground state InBr molecule

Figure 4.3 (b): Percentage deviation of H-H, Extended- Rydberg & Zavitsas Potential energy curves for the ground state InBr molecule
Figure 4.4 (a): RKR, H-H, Extended- Rydberg& Zavitsas Potential energy Curves for the ground state InI molecule

Figure 4.4 (b): Percentage deviation of H-H, Extended- Rydberg & Zavitsas Potential energy curves for the ground state InI molecule
Figure 4.5 (a): RKR, H-H, Extended- Rydberg & Zavitsas Potential energy Curves for the ground state BCI molecule

Figure 4.5 (b): Percentage deviation of H-H, Extended- Rydberg & Zavitsas Potential energy curves for the ground state BCI molecule
Figure 4.6 (a): RKR, H-H, Extended-Rydberg & Zavitsas Potential energy curves for the ground state AlCl molecules

Figure 4.6 (b): Percentage deviation of H-H, Extended-Rydberg & Zavitsas Potential energy curves for the ground state AlCl molecule
Figure 4.7 (a): RKR, H-H, Extended-Rydberg & Zavitsas Potential energy curves for the ground state of GaCl molecule

Figure 4.7 (b): Percentage deviation of H-H, Extended-Rydberg & Zavitsas Potential energy curves for the ground state of GaCl molecule
Figure 4.1- (c): RKR Potential energy curve for the ground state of InF molecule
Figure 4.1(d): RPC of the ground state of InF molecule
Figure 4.2 (c): RKR Potential energy curve for the ground state of InCl molecule
Figure 4.2 (d): RPC of the ground state of InCl molecule
Figure 4.3 (c): RKR Potential energy curve for the ground state of InBr molecule
Figure 4.3 (d): RPC of the ground state of InBr molecule
Figure 4.4 (c): RKR Potential energy curve for the ground state of InI molecule
Figure 4.4 (d): RPC of the ground state of InI molecule
Figure 4.5 (c): RKR Potential energy curve for the ground state of BCl molecule
Figure 4.5 (d): RPC of the ground state of BCl molecule
Figure 4.6 (c): RKR Potential energy curve for the ground state of AlCl
Figure 4.6 (d) : RPC of the ground state of AlCl molecule
Figure 4.7 (c): RKR Potential energy curve for the ground state of GaCl molecule
Figure 4.7(d) : RPC of the ground state of GaCl molecule
Figure 4.8: The combined Reduced potential curves for the ground state of InF, InCl, InBr, InI molecules
Figure 4.10: The combined Reduced potential curves for the ground state of BCl, AlCl, GaCl, and InCl molecules
Figure 4.14: RKR Potential energy curve for the $A^3\Pi_0$ state of InCl molecule
Figure 4.15: RKR Potential energy curve for the $B^3I_1$ state of InCl molecule
Figure 4.9: The combined Reduced potential curves for the ground state of $^{115}\text{In}^{35}\text{Cl}$ and $^{115}\text{In}^{37}\text{Cl}$ molecules
Figure 4.11: The combined Reduced potential curves for the ground state of $^{115}\text{In}^{35}\text{Cl}$ and $^{113}\text{In}^{35}\text{Cl}$ molecules.
Figure 4.13: The combined Reduced potential curves for the ground state of $^{113}\text{In}^{35}\text{Cl}$ and $^{113}\text{In}^{37}\text{Cl}$ molecules
Figure 4.12: The combined Reduced potential curves for the ground state of $^{115}\text{In}^{37}\text{Cl}$ and $^{113}\text{In}^{37}\text{Cl}$ molecules