Supplement-Table 1: calculated total energy (in hartree, where -169.0 hartree should be added to the values given) for the lowest ten $^2\Sigma^+$ states of $NaLi^+$ at different values of the internuclear distance R (bohr).

Supplement-Table 2: calculated total energy (in hartree, where -169.0 hartree should be added to the values given) for the lowest six $^2\Pi$ and two $^2\Delta$ states of $NaLi^+$ at different values of the internuclear distance R (bohr).

Supplement-Table 3: calculated total energy (in hartree, where -169.0 hartree should be added to the values given) for the lowest nine $^1\Sigma^+$ states of NaLi at different values of the internuclear distance R (bohr).

Supplement-Table 4: calculated total energy (in hartree, where -169.0 hartree should be added to the values given) for the lowest eight $^3\Sigma^+$ states of NaLi at different values of the internuclear distance R (bohr).

Supplement-Table 5: calculated total energy (in hartree, where -169.0 hartree should be added to the values given) for the lowest seven $^1\Pi$ states of NaLi at different values of the internuclear distance R (bohr).

Supplement-Table 6: calculated total energy (in hartree, where -169.0 hartree should be added to the values given) for the lowest seven $^3\Pi$ states of NaLi at different values of the internuclear distance R (bohr).

Supplement-Table 7: calculated total energy (in hartree, where -169.0 hartree should be added to the values given) for the lowest four $^1\Delta$ and lowest four $^3\Delta$ states of NaLi at different values of the internuclear distance R (bohr).

Supplementary Table 8. Comparison of the vibrational levels E_v (cm^{-1}) for $B^1\Pi$ (J=1), $C^1\Sigma^+$(J=0) and $D^1\Pi$(J=1) of Na^7Li, with respect to the electronic minimum energy in each case calculated in the present work with previous theoretical and experimental data.