In[627]:= `Collect[Expand[LNH2[[1, 1]] /. {NSe1 → 0, NSe4 → 0, NSe5 → 0, NSe6 → 0,`
`        NSe7 → 0, NSo1 → 0, NSo3 → 0, NSo4 → 0, NSo6 → 0, NSo7 → 0, CS1 → 0, CS2 → 0,`
`        CS3 → 0, CS4 → 0, CS5 → 0, CS6 → 0, κ1[i_] → 1.000}], {NSe2, NSe3, NSo2, NSo5}]`

Out[627]= $\text{NSo5} \left(-7.37724 \times 10^{-11} \, i \, \nu 1 \, \chi 01 + 0.0102111 \, i \, \nu 2 \, \chi 01 - 0.14413 \, i \, \nu 3 \, \chi 01 - 2.0841 \times 10^{-10} \, i \, \nu 1 \, \chi 02 + \right.$

$0.0288466 \, i \, \nu 2 \, \chi 02 - 0.407171 \, i \, \nu 3 \, \chi 02 + 3.21004 \times 10^{-10} \, i \, \nu 1 \, \chi 03 - 0.0444313 \, i \, \nu 2 \, \chi 03 +$

$0.627149 \, i \, \nu 3 \, \chi 03 + 4.40432 \times 10^{-10} \, i \, \nu 1 \, \chi 04 - 0.0609616 \, i \, \nu 2 \, \chi 04 + 0.860475 \, i \, \nu 3 \, \chi 04 -$

$2.1182 \times 10^{-10} \, i \, \nu 1 \, \chi 05 + 0.0293186 \, i \, \nu 2 \, \chi 05 - 0.413833 \, i \, \nu 3 \, \chi 05 + 1.25621 \times 10^{-11} \, i \, \nu 1 \, \chi 06 -$

$0.00173876 \, i \, \nu 2 \, \chi 06 + 0.0245426 \, i \, \nu 3 \, \chi 06 + 0.070968 \, i \, e \, \chi C1 - 0.88256 \, i \, \mu \, \chi C1 +$

$\left. 0.622685 \, i \, \tau \, \chi C1 + 0.0381667 \, i \, e \, \chi C2 - 0.474643 \, i \, \mu \, \chi C2 + 0.334881 \, i \, \tau \, \chi C2 \right) +$

$\text{NSo2} \left(-7.37899 \times 10^{-11} \, i \, \nu 1 \, \chi 01 + 0.0102135 \, i \, \nu 2 \, \chi 01 - 0.144164 \, i \, \nu 3 \, \chi 01 - 2.08459 \times 10^{-10} \, i \, \nu 1 \, \chi 02 + \right.$

$0.0288535 \, i \, \nu 2 \, \chi 02 - 0.407267 \, i \, \nu 3 \, \chi 02 + 3.2108 \times 10^{-10} \, i \, \nu 1 \, \chi 03 - 0.0444418 \, i \, \nu 2 \, \chi 03 +$

$0.627297 \, i \, \nu 3 \, \chi 03 + 4.40536 \times 10^{-10} \, i \, \nu 1 \, \chi 04 - 0.060976 \, i \, \nu 2 \, \chi 04 + 0.860678 \, i \, \nu 3 \, \chi 04 -$

$2.1187 \times 10^{-10} \, i \, \nu 1 \, \chi 05 + 0.0293256 \, i \, \nu 2 \, \chi 05 - 0.413931 \, i \, \nu 3 \, \chi 05 + 1.25651 \times 10^{-11} \, i \, \nu 1 \, \chi 06 -$

$0.00173917 \, i \, \nu 2 \, \chi 06 + 0.0245484 \, i \, \nu 3 \, \chi 06 + 0.0709847 \, i \, e \, \chi C1 - 0.882768 \, i \, \mu \, \chi C1 +$

$\left. 0.622832 \, i \, \tau \, \chi C1 + 0.0381758 \, i \, e \, \chi C2 - 0.474755 \, i \, \mu \, \chi C2 + 0.33496 \, i \, \tau \, \chi C2 \right) +$

$\text{NSe3} \left(-1.89329 \times 10^{-11} \, \nu 1 \, \chi 01 + 0.00262057 \, \nu 2 \, \chi 01 - 0.0369894 \, \nu 3 \, \chi 01 - 1.81436 \times 10^{-10} \, \nu 1 \, \chi 02 + \right.$

$0.0251132 \, \nu 2 \, \chi 02 - 0.354473 \, \nu 3 \, \chi 02 + 2.77987 \times 10^{-10} \, \nu 1 \, \chi 03 - 0.0384771 \, \nu 2 \, \chi 03 +$

$0.543106 \, \nu 3 \, \chi 03 + 3.77328 \times 10^{-10} \, \nu 1 \, \chi 04 - 0.0522272 \, \nu 2 \, \chi 04 + 0.737189 \, \nu 3 \, \chi 04 -$

$1.82427 \times 10^{-10} \, \nu 1 \, \chi 05 + 0.0252504 \, \nu 2 \, \chi 05 - 0.35641 \, \nu 3 \, \chi 05 - 2.91584 \times 10^{-11} \, \nu 1 \, \chi 06 +$

$0.0040359 \, \nu 2 \, \chi 06 - 0.0569669 \, \nu 3 \, \chi 06 + 0.0604354 \, e \, \chi C1 - 0.751576 \, \mu \, \chi C1 +$

$\left. 0.53027 \, \tau \, \chi C1 + 0.0325023 \, e \, \chi C2 - 0.404199 \, \mu \, \chi C2 + 0.28518 \, \tau \, \chi C2 \right) +$

$\text{NSe2} \left(-2.32669 \times 10^{-10} \, \nu 1 \, \chi 01 + 0.0322044 \, \nu 2 \, \chi 01 - 0.454567 \, \nu 3 \, \chi 01 - 2.17805 \times 10^{-10} \, \nu 1 \, \chi 02 + \right.$

$0.0301471 \, \nu 2 \, \chi 02 - 0.425528 \, \nu 3 \, \chi 02 + 3.40529 \times 10^{-10} \, \nu 1 \, \chi 03 - 0.0471337 \, \nu 2 \, \chi 03 +$

$0.665294 \, \nu 3 \, \chi 03 + 4.81243 \times 10^{-10} \, \nu 1 \, \chi 04 - 0.0666104 \, \nu 2 \, \chi 04 + 0.940207 \, \nu 3 \, \chi 04 -$

$2.28161 \times 10^{-10} \, \nu 1 \, \chi 05 + 0.0315805 \, \nu 2 \, \chi 05 - 0.445759 \, \nu 3 \, \chi 05 + 1.50848 \times 10^{-10} \, \nu 1 \, \chi 06 -$

$0.0208794 \, \nu 2 \, \chi 06 + 0.294714 \, \nu 3 \, \chi 06 + 0.078796 \, e \, \chi C1 - 0.97991 \, \mu \, \chi C1 +$

$\left. 0.691369 \, \tau \, \chi C1 + 0.0423767 \, e \, \chi C2 - 0.526998 \, \mu \, \chi C2 + 0.37182 \, \tau \, \chi C2 \right)$