# $C_{60}^{+}$ AND $C_{60}^{-}$ IN NEON AND ARGON MATRICES

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Mass-selected $C_{60}$ anions have been deposited in noble gas matrices (Ne,Ar) kept at 6K. The vibronic properties of the species ($C_{60}^{+}$, $C_{60}^{0}$, $C_{60}^{-}$) were determined by NIR and MID-IR absorption spectroscopy. By co-depositing electrons without the addition of electron scavengers or donors to the host matrix, we were able to vary the $C_{60}^{+}$/$C_{60}^{-}$ ratio. By changing the $C_{60}^{+}$/$C_{60}^{-}$ ratio, previously known vibrational data of the $C_{60}^{+}$ and $C_{60}^{-}$ species could be confirmed and also extended further. DFT calculations performed on isolated $C_{60}^{+}$ and $C_{60}^{-}$ ions support the experimental assignment.