



FIGURE 1. i) Photoluminescence change while scanning the magnetic field along the crystalline [100] direction. The change in PL due to the transverse field was subtracted. ii) Theory of the energy levels for various species with magnetic field along [100] direction : Plain : NV centers, dotted : NV centers with hyper-fine coupling of a first-shell ^{13}C , dashed : VH^- , dash-dotted : War1. The predicted cross relaxation with NV centers are at 18-24 G for first-shell ^{13}C NV, 54 G for VH^- and 123 G for War1