



Empirical Kataum plots of SWCNTs. Blue open circles and blue cross marks connected with blue lines (S_{11} , S_{22} , M_{11} , S_{13} , S_{44}) are measured and empirical formula, respectively, from Araujo et al. [112]. Red cross marks connected with red lines (S_{11} , S_{22} , M_{11} , S_{33} , S_{44} , M_{22}) are from nanotube atlas by Liu et al. [13] with (A, B) in eq. (4) set as (217.8, 15.7). Brown cross marks are calculated from Araujo et al. [116]. Green open circles from Telg et al. [113], red open circles from Fantini et al. [111] and red solid circle from Jorio et al. [114] are measured from dispersed SWCNTs in solution. Green solid circles are measured from suspended SWCNTs from Michel et al. [115]. Chiral index (n, m) and family pattern branches $[2n+m]$ are indicated.

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