**Table 1.** Raman band assignments of standard plastics and sampled microplastics

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| --- | --- | --- | --- |
| Polymer | Raman bands (cm-1)of sampled MPs | Raman bands (cm-1)of plastic standards | Bond assignment |
| Polyethylene (LDPE) | 2928.901442.631293.131172.351069.69 | 2884.501441.901296.251124.361060.97 | –CH2– stretch (d)–CH2– wag (d)–CH2– twist (d)C–C stretch (d)C–C stretch (d) |
| Polypropylene(PP) | 2886.501451.791325.161150.51805.23 | 2889.141458.891328.971153.82808.67 | –CH3 stretch (c)–CH2– deformation (b)C–C stretch (c)–CH3 rock (c)–CH2–rock (b) |
| Polyvinyl chloride (PVC) | 2892.781436.721360.33693.92 | 2852.091430.191319.11632.64 | C–H stretch (i)–CH2– bend (i, e)unknown group (i)C–Cl  |
| Poly-ethylene terephthalate (PET) | 1753.591602.31302.58846.1693.92 | 1725.341614.521288.21855.40628.46 | C=O stretch (g, h)Natural aromatic compounds in organic chemistry - Embibe ExamsC=C (h)C–C C=C (g)Natural aromatic compounds in organic chemistry - Embibe Exams (g) |
| Polystyrene (PS) | 1612.871015.03622.43 | 1604.241001.75621.10 | phenyl ring stretch (a, b)C–C in-plane ring deformation +, C–H out-of-plane deformation (a)in-plane ring deformation (a, b) |
| Poly(methyl methacrylate) (PMMA) | 1679.851512.101154.13835.31 | 1723.711447.511181.31808.67 | C–O–C symmetric stretch (a)–CH2– deformation (b)C–C–C–C stretch (b)C=O stretch (a) |
| Polyamide-6, nylon-6(PA-6) | 2895.671680.051440.221383.021094.93 | 2900.21633.391441.91430.49928.73 | –CH2– stretch (e)unknown group (e)–CH2– (e, f)–CH2– bend (e, f)–CH2– twist (f) |

*(a) Hu et al. 2012, (b) Bruckmoser et al. 2015, (c) Gopanna et al. 2018, (d) Daniel and Wiebeck 2019,*

*(e) Gündoğdu 2018, (f) Milani 2015, (g) Käppler et al. 2015, (h) Alexiou et al. 2020, (i) Solodovnichenko et al. 2016*