

Fig 1: Mean (\pm standard errors; n=12) TS of Exp and commercial VPS impression materials at four different time points.

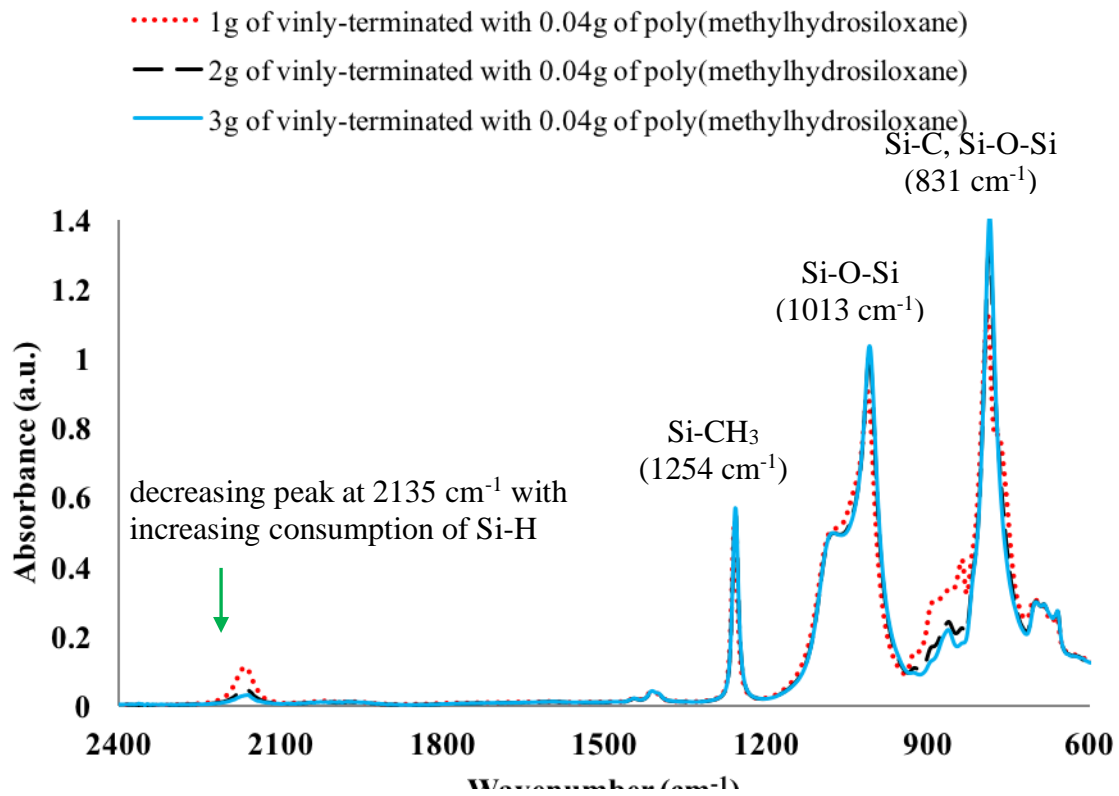


Fig 2: ATR-FTIR spectra of Formulation 1; different concentrations of vinyl-terminated poly(dimethylsiloxane) with a fixed amount of poly(methylhydrosiloxane; scans=4).

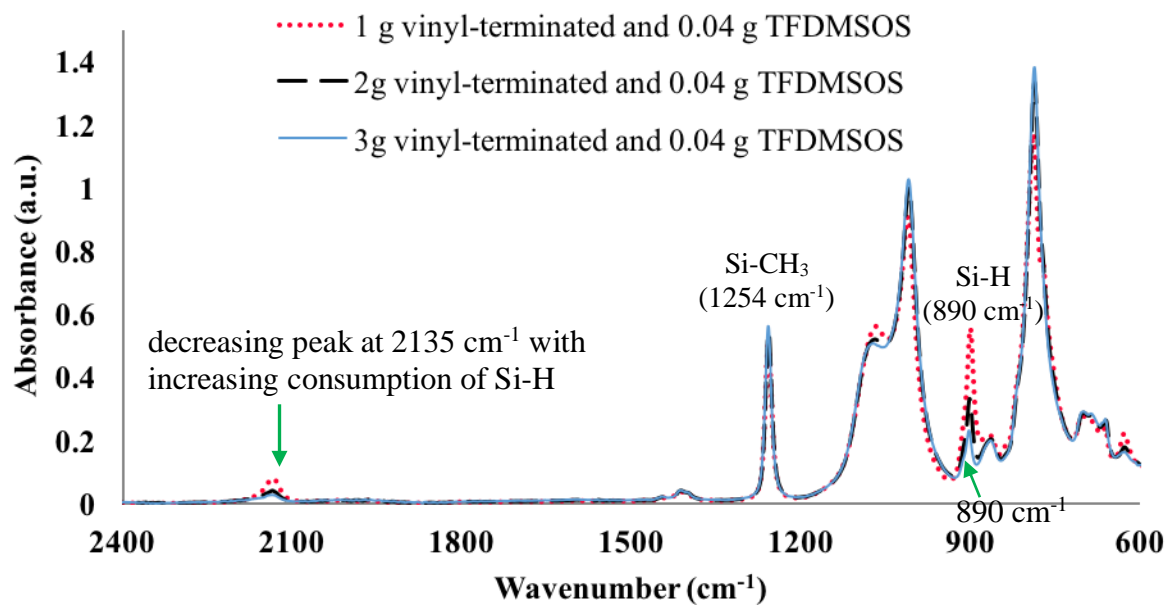


Fig 3: ATR-FTIR spectra of Formulation 2; different concentrations of vinyl-terminated poly(dimethylsiloxane) with a fixed amount of TFDMSOS (scans=4).

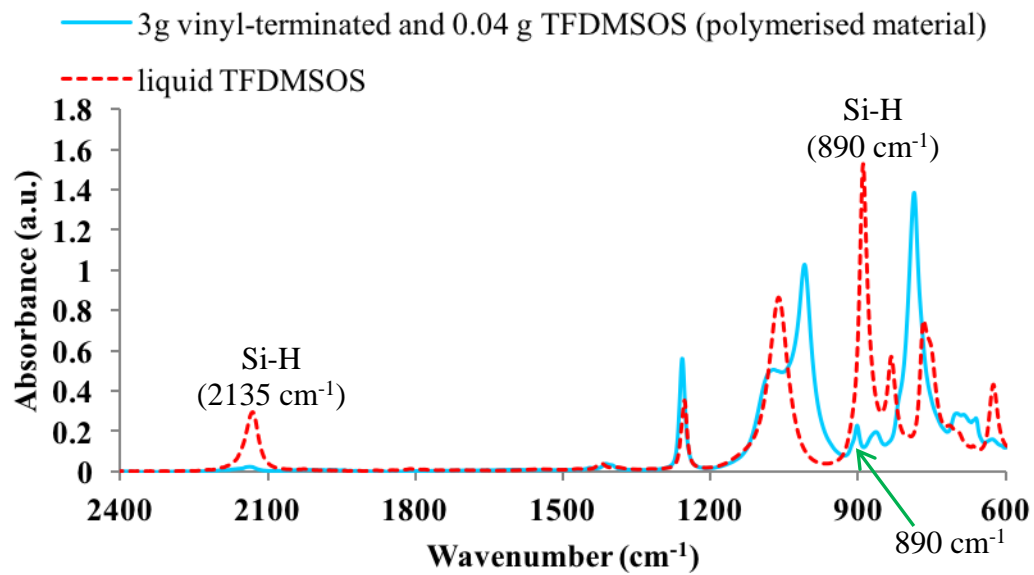


Fig 4: ATR-FTIR analysis of Formulation 2 and liquid TFDMSOS showing the consumption of Si-H at 2135 cm⁻¹ and 890 cm⁻¹ (scans=4).

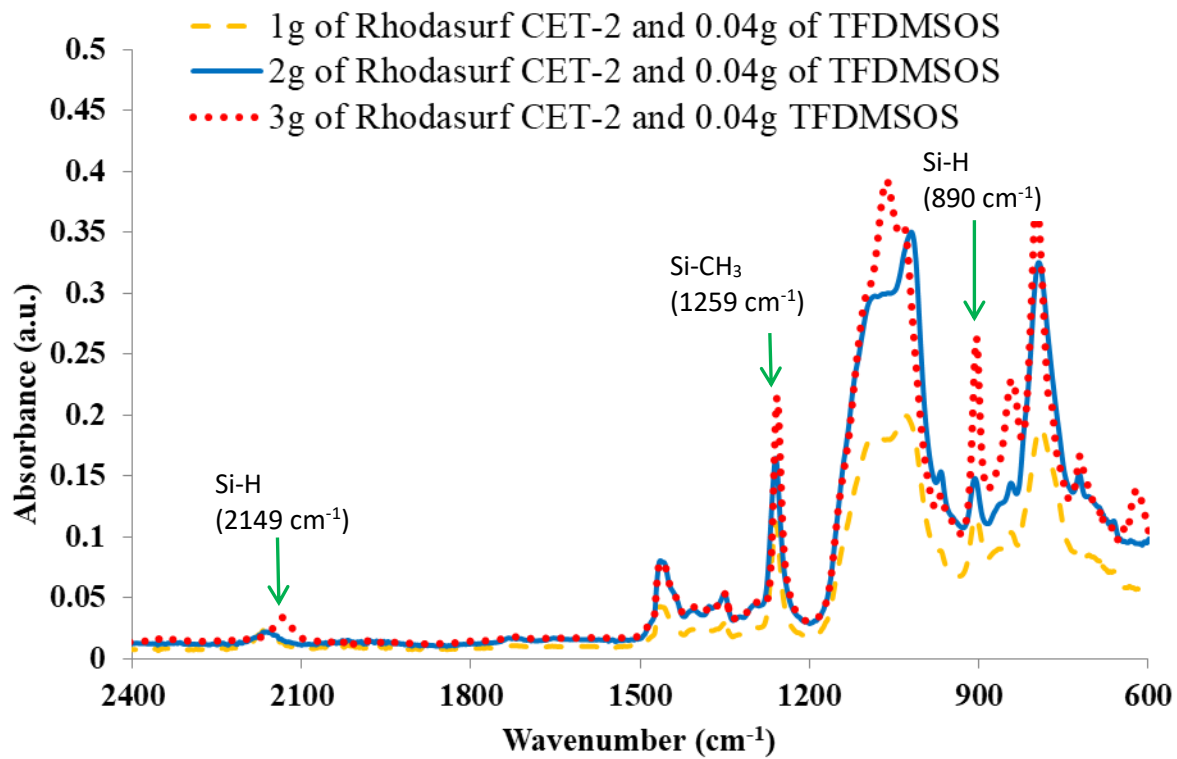


Fig 5: ATR-FTIR spectra of Formulation 3; different concentrations of Rhodasurf CET-2; non-ionic surfactant (ethoxylatedcetyl-oleyl alcohol), with a fixed amount of TFDMSOS (scans=4).

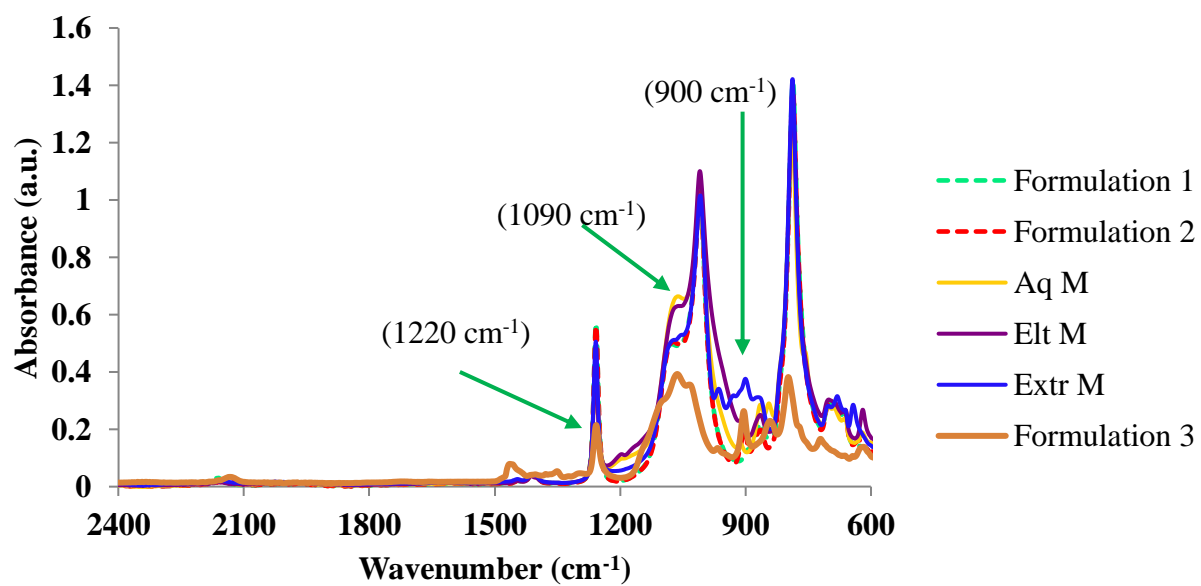


Fig 6: Comparison of ATR-FTIR spectra of the Formulation 1, 2, 3 and commercial VPS impression materials (scans=4).

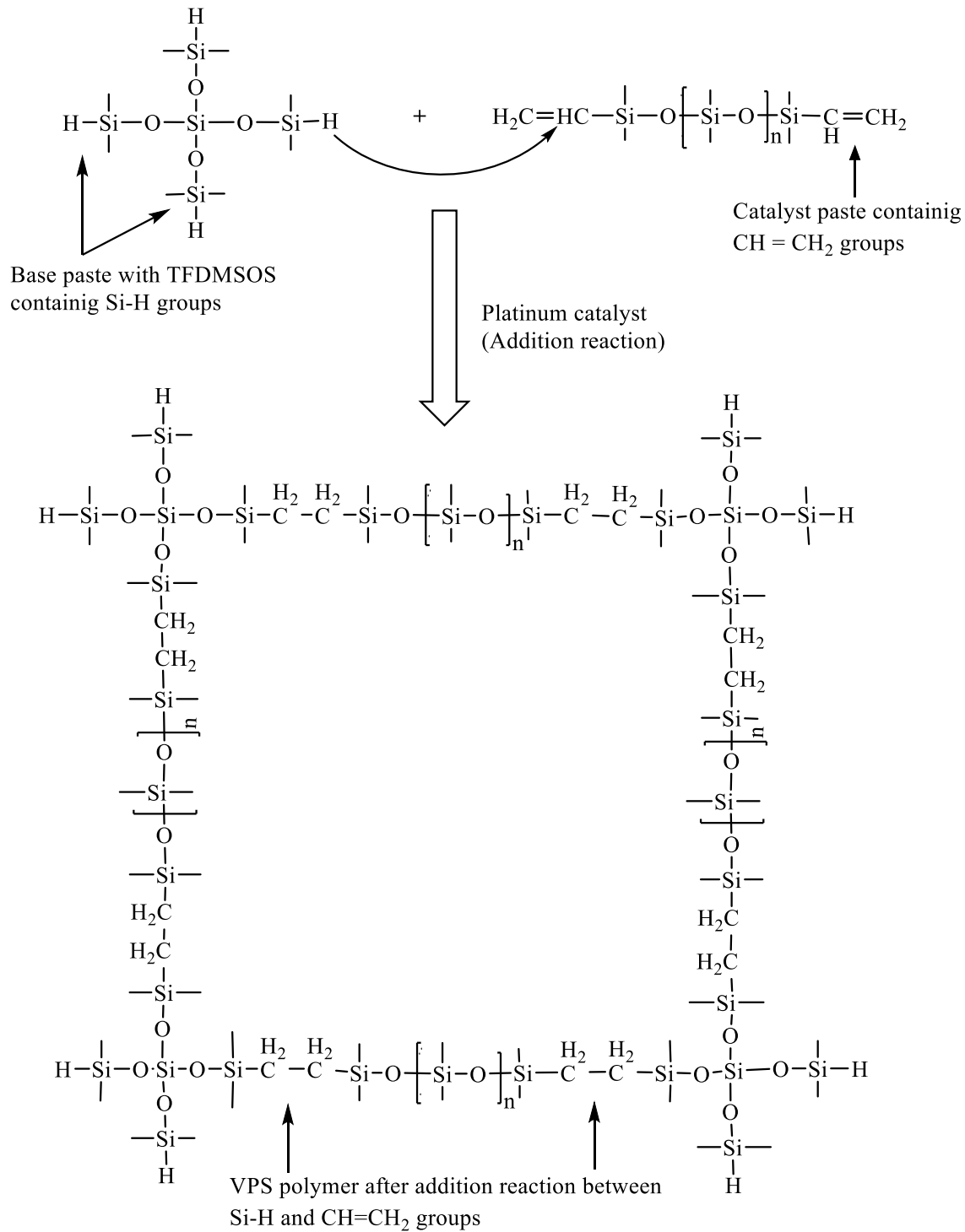


Fig 7: Addition polymerisation reaction between novel cross-linking agent (TFDMSOS) and vinyl-terminated poly(dimethylsiloxane) pre-polymer.

Table 2: Average Tear Strength (N/mm) (\pm SD): Exp and commercial VPS impression materials at different time points after setting. Similar superscript letters indicate no significant difference between materials at each time point ($p > 0.05$).

Test Time after setting	Materials							
	Aq M	Elt M	Extr M	Exp-I	Exp-II	Exp-III	Exp-IV	Exp-V
Immediately	0.61 (0.09) ^{a,b}	0.53 (0.07) ^{a,c}	0.39 (0.07) ^c	0.72 (0.07) ^b	1.29 (0.10)	1.83 (0.21)	2.10 (0.26)	2.56 (0.26)
24 hrs	0.61 (0.08) ^{a,b}	0.51 (0.12) ^{a,c}	0.37 (0.05) ^c	0.75 (0.19) ^b	1.20 (0.11)	1.73 (0.20)	2.11 (0.39)	2.43 (0.24)
72 hrs	0.70 (0.12) ^{a,b}	0.57 (0.83) ^{a,b,c}	0.53 (0.11) ^c	0.71 (0.08) ^b	1.18 (0.15)	1.56 (0.30)	1.82 (0.29)	2.34 (0.31)
168 hrs (1 week)	0.89 (0.11)	0.60 (0.12) ^{a,b}	0.51 (0.05) ^a	0.71 (0.07) ^b	1.21 (0.21)	1.65 (0.24)	1.95 (0.33)	2.20 (0.18)