Table 5. Optimization of Swelling Index of Simvastatin buccal tablets [9].

Formulation Code	% Swelling Index			
	2 h	4 h	8 h	12 h
SF1	22.36	43.56	63.25	73.25
SF2	24.36	44.58	68.89	75.65
SF3	23.45	43.36	65.52	74.58
SF4	28.89	54.57	69.98	79.85
SF5	29.45	55.45	70.23	80.21
SF6	26.45	56.74	72.45	78.25

Table 6. *In-vitro* drug release study of buccal tablets.

Time (h)	% Cumulative Drug Release					
	SF1	SF2	SF3	SF4	SF5	SF6
0.5	33.25	32.25	30.14	25.56	20.36	18.56
1	45.56	40.23	39.98	32.25	26.65	22.25
1.5	65.56	60.58	59.88	46.69	40.23	39.98
2	88.89	79.98	78.89	58.89	51.12	49.98
3	98.89	87.52	85.56	69.98	60.23	55.56
4	-	93.32	92.23	76.12	71.45	69.78
6	-	98.85	99.12	88.56	79.98	78.89
8	-	-	-	92.23	86.65	83.32
12	-	-	-	98.78	90.12	89.98

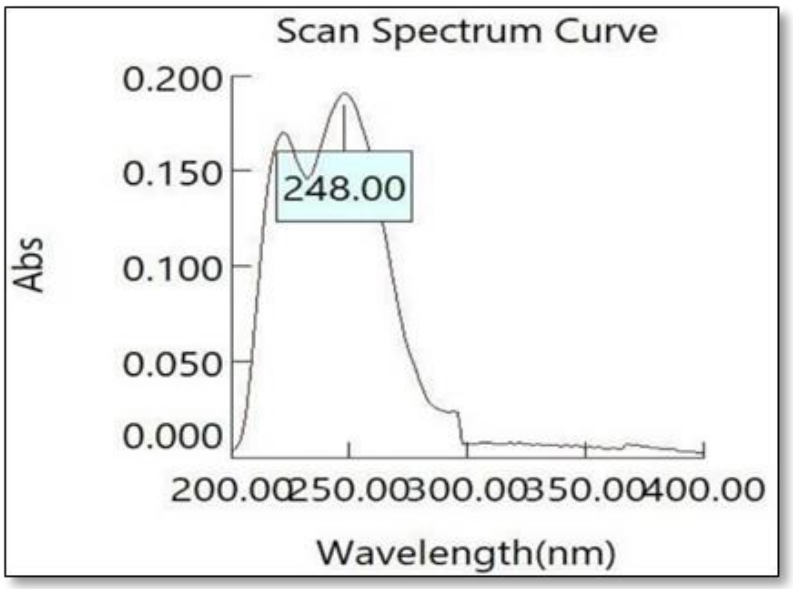

Figure 1. Wavelength maxima of Simvastatin in phosphate buffer pH 6.8 at 248nm [9].

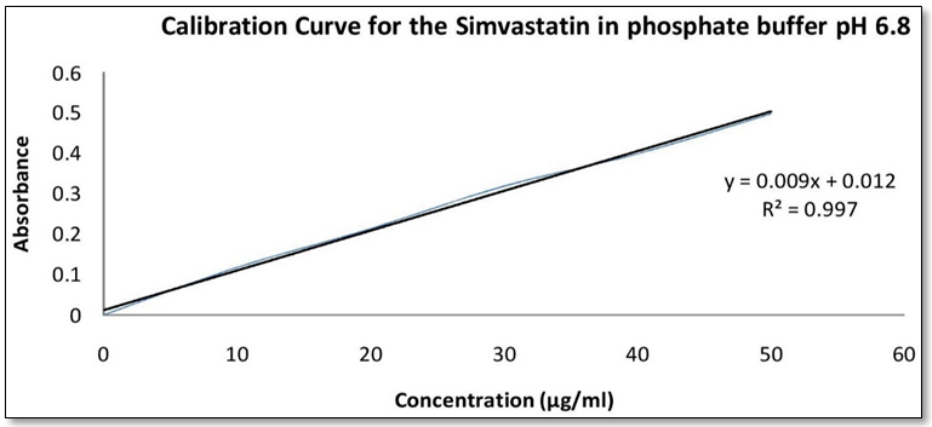

Figure 2. Calibration curve of Simvastatin in phosphate buffer pH 6.8 at 248nm [9].

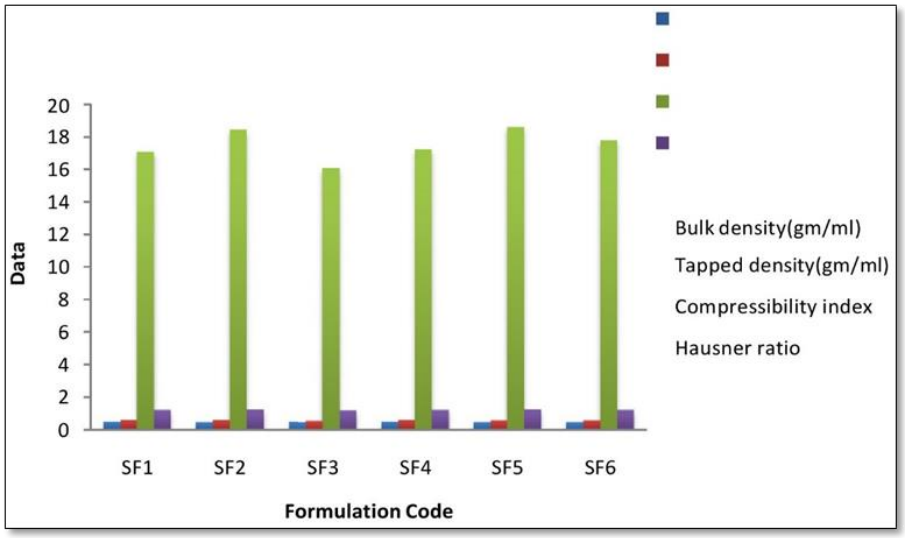

Figure 3. Optimization of pre-compression properties of Simvastatin [10].

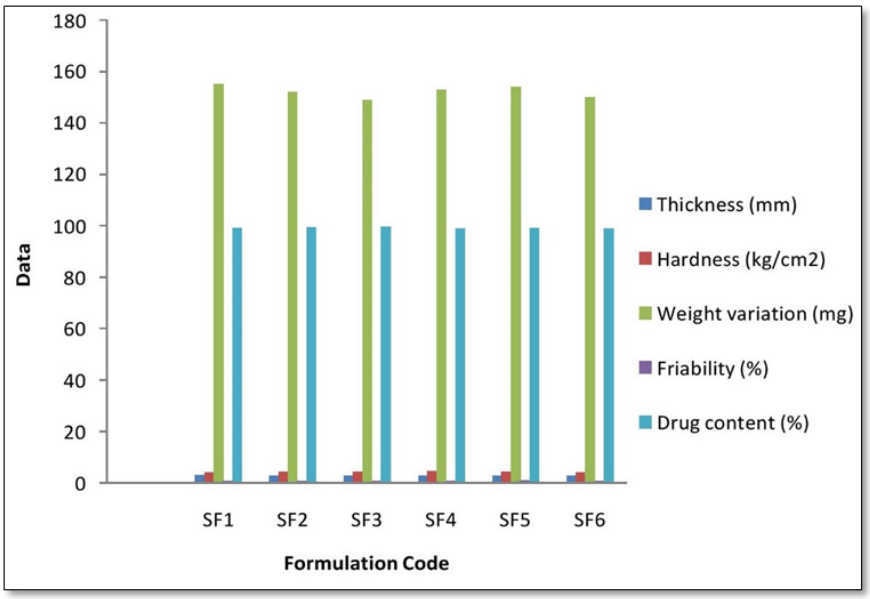

Figure 4. Optimization of post compression properties of Simvastatin buccal tablets [10].

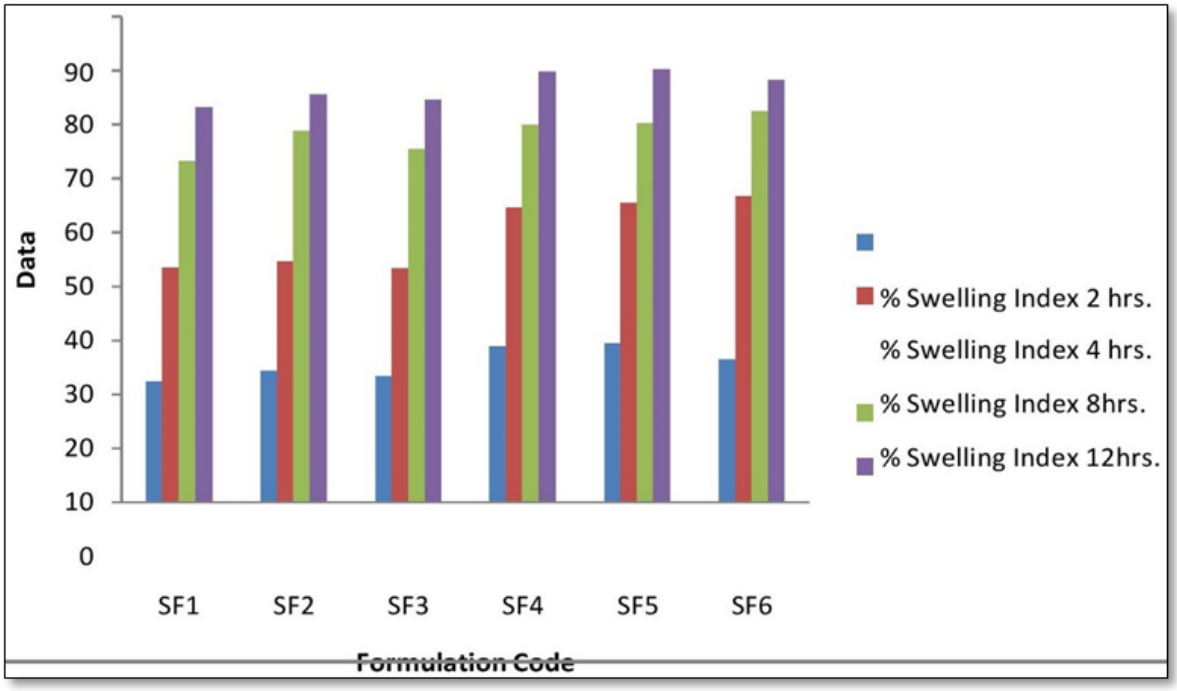

Figure 5. Optimization of Swelling Index of Simvastatin buccal tablets [10].

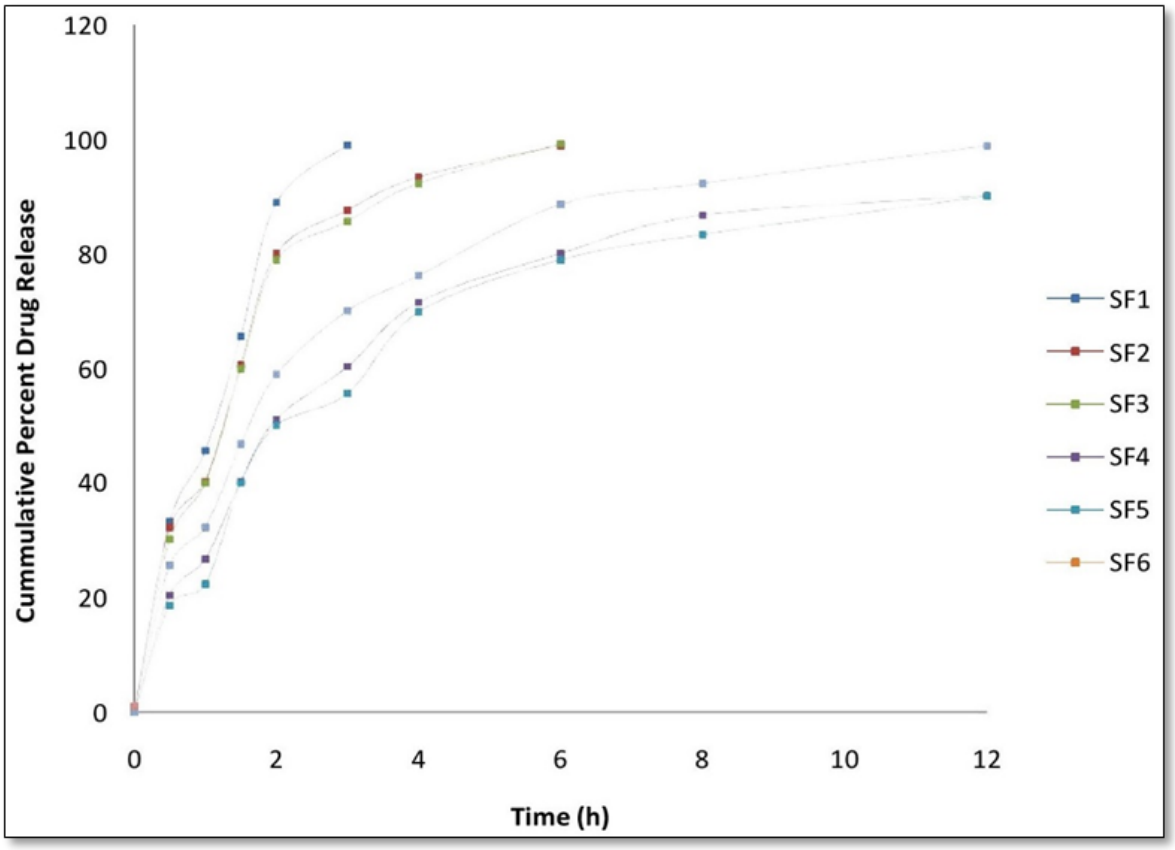

Figure 6. Zero-order kinetics *in vitro* drug release study of buccal tablets [11].

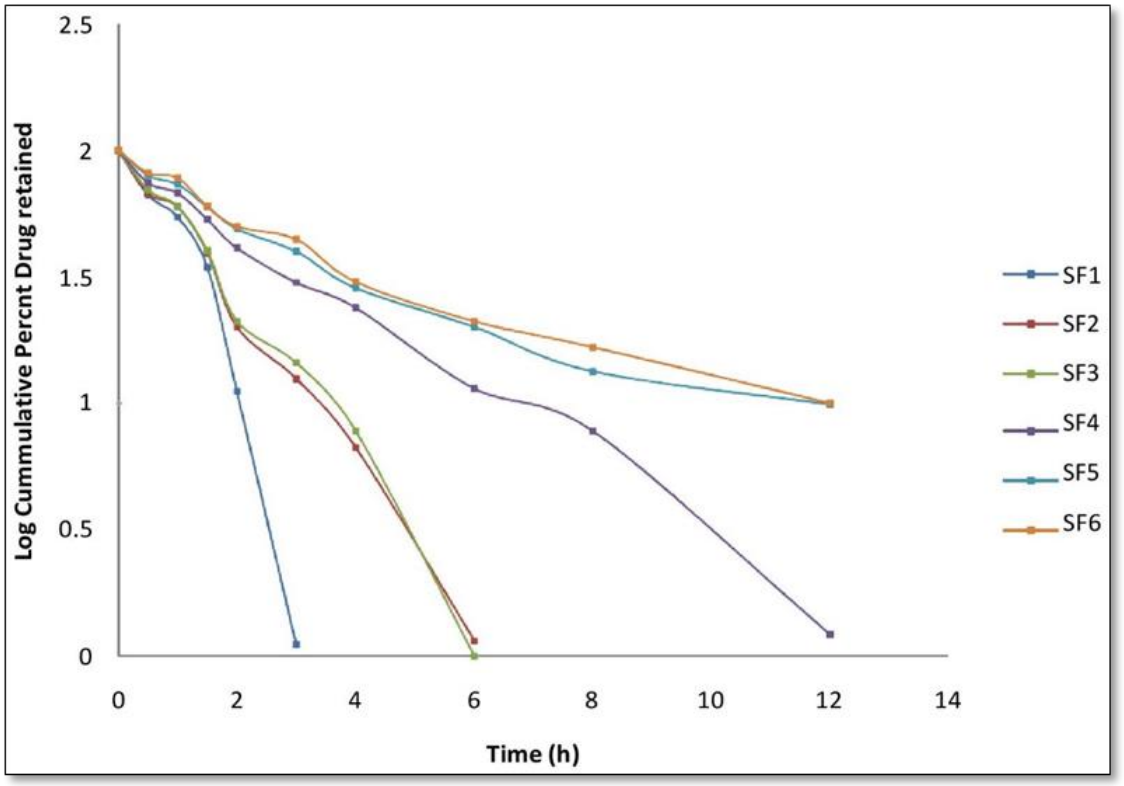

Figure 7. First-order kinetics *in vitro* drug release study of buccal tablets [11].

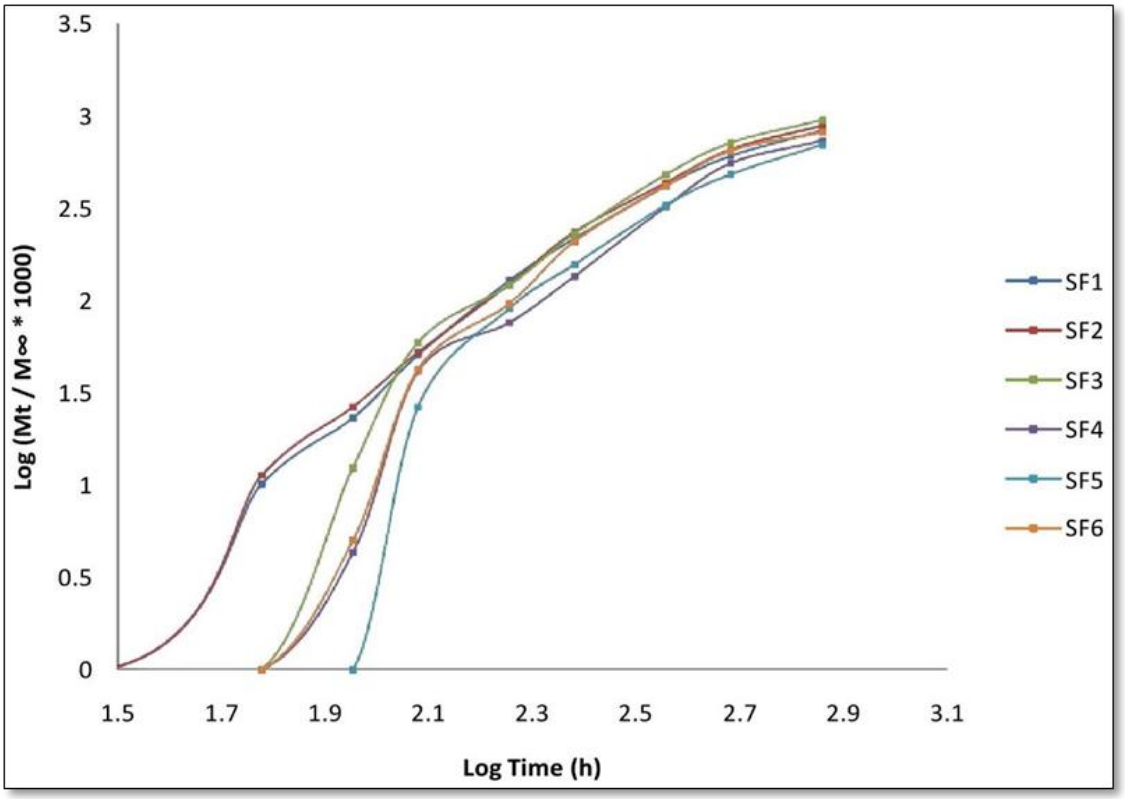

Figure 8. Korsmeyer-peppas kinetics *in vitro* drug release study of buccal tablets [11].

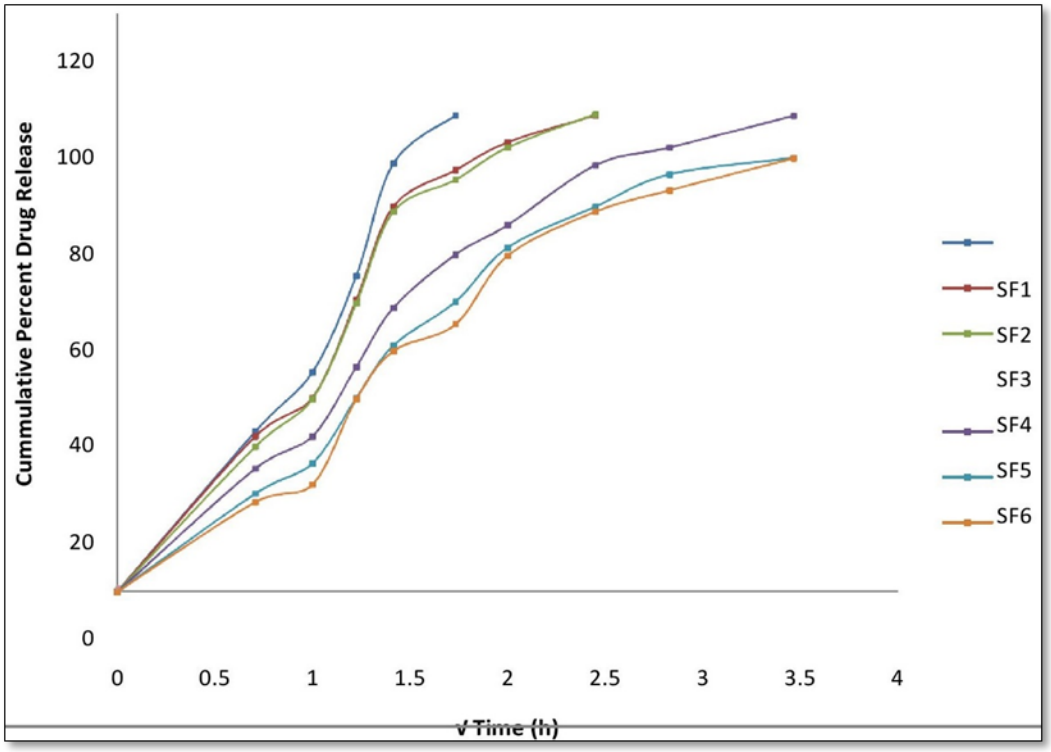

Figure 9. Higuchi kinetics *in vitro* drug release study of buccal tablets [12].

SUMMARY AND CONCLUSION

From the present study the following conclusions were made. Buccal tablets of Simvastatin using HPMC K4, Carbopol 934 and Na Alginate prepared by direct compression method were found to be good without chipping, capping and sticking. The drug content was uniform in all the formulations of tablets prepared. Low values of standard deviations indicate uniform distribution of drugs within the matrices. The drug polymer ration influenced the release of drug from the formulations. An increase in polymer decreased the drug release. Formulation SF4 with drug polymer (HPMC K4, carbopol and Na Alginate) has shown promising results as per USP test II requirements. Among these formulations SF4 is acceptable for further pharmacodynamic and pharmacokinetic evaluation.

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