

Table 5. Regression coefficients (r^2) for mathematical modeling in shear rate-shear stress curves according to different flow models (n = 3).

Formulation	Bingham	Casson	Ostwald	Herschel- Bulckley
C-B	0.988 ± 0.010	0.997 ± 0.010	0.994 ± 0.010	0.997 ± 0.001
C-D	0.983 ± 0.003	0.994 ± 0.003	0.988 ± 0.006	0.984 ± 0.011
C-SP	0.986 ± 0.001	0.996 ± 0.001	0.990 ± 0.001	0.993 ± 0.001
C-SNP	0.989 ± 0.001	0.995 ± 0.001	0.986 ± 0.001	0.994 ± 0.001

Table 6. Plastic viscosity and yield stress of the creams according to the Casson model.

Formulation	Viscosity (mPas)	Yield stress (N/m²)
C-B	17562 ± 691	46.3 ± 2.0 ^a
C-D	16108 ± 3501	29.2 ± 3.3 ^b
C-SP	16284 ± 877	39.0 ± 3.1 ^c
C-SNP	17420 ± 223	28.9 ± 0.05 ^b

Means in column with the same letter are not statistically different (ANOVA, Tukey test, $p \leq 0.05$).

Table 7. Rate constant (k), correlation coefficients (r) and MSC determined for DEX release from creams using the Higuchi's square root model.

Higuchi model	C-D	C-SNP	C-SP
k (h^{-1})	16.56 ± 0.23^a	20.92 ± 0.65^b	11.75 ± 0.24^c
r	0.979 ± 0.000	0.969 ± 0.007	0.974 ± 0.003
MSC	2.648 ± 0.020	2.415 ± 0.169	2.523 ± 0.108

Means with the same letter are not statistically different (ANOVA, Tukey test, $p \leq 0.05$).