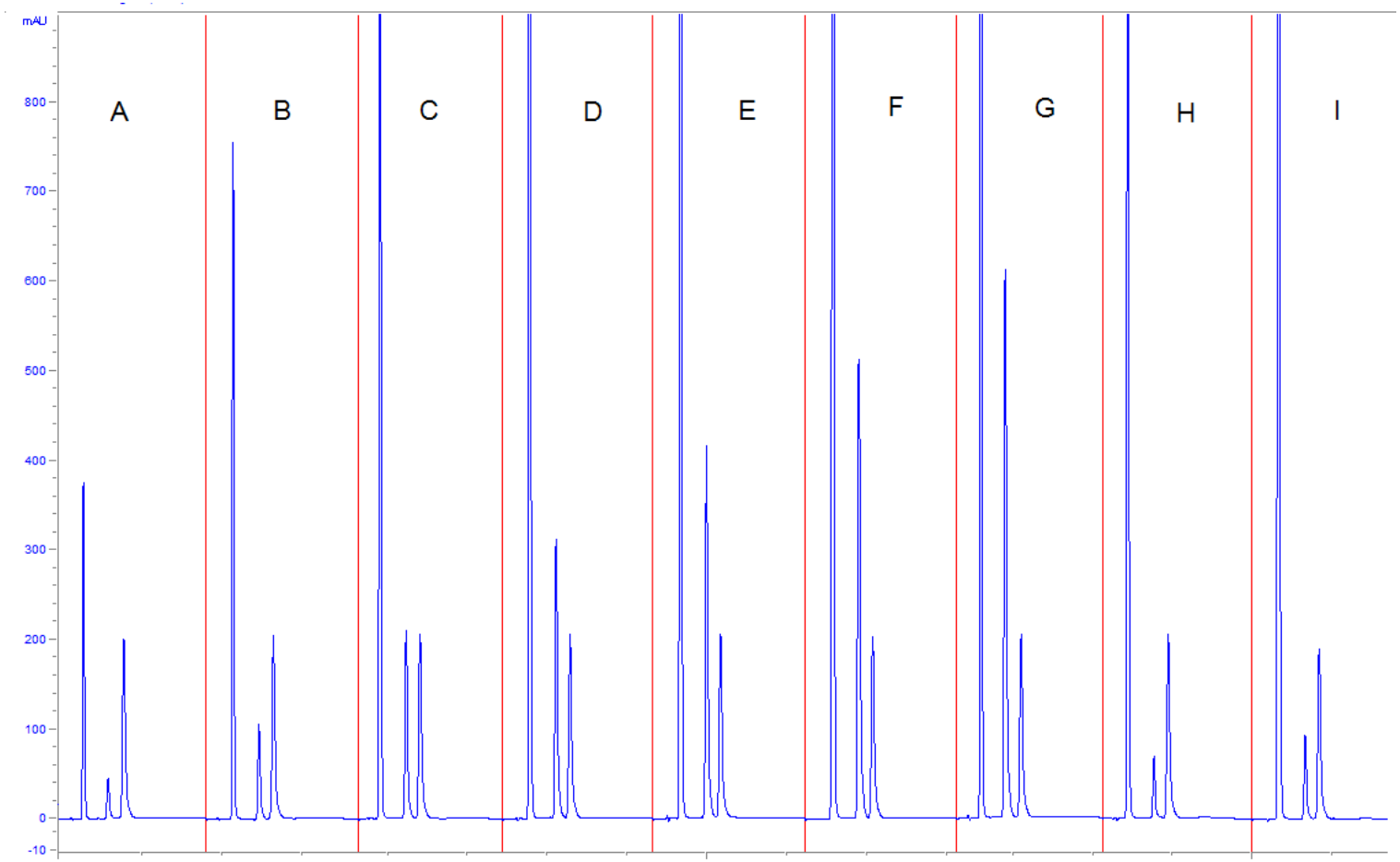
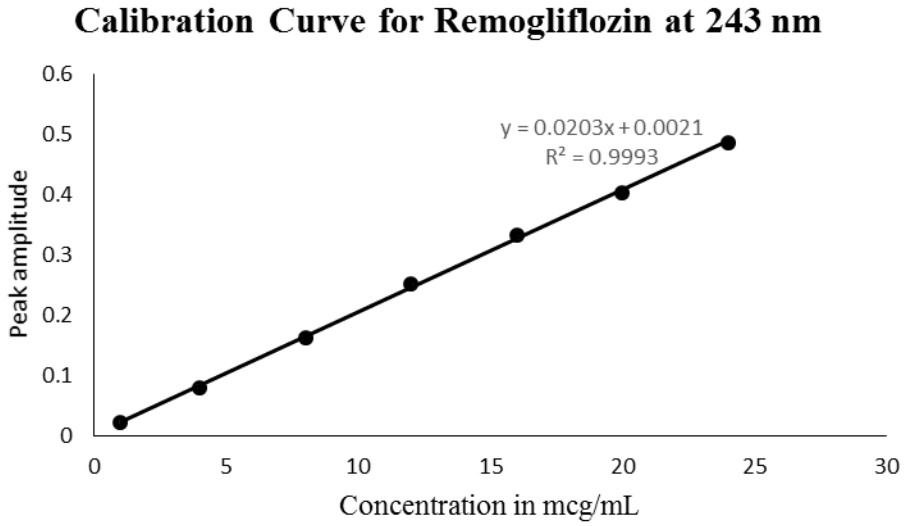


Fig. S1: Chromatograms of standard solutions of Metformin and Remogliflozin (MFH:RGE (µg/ml) =25:5(A); 50:25(B), 75:50 (C); 100:75 (D); 125:100 (E); 150:125 (F) to 200:150(G) and samples 100:10 (H) and 200:20 (I)

Fig S2: Calibration curves for RGE and MFH by 2nd derivative UV spectroscopic method



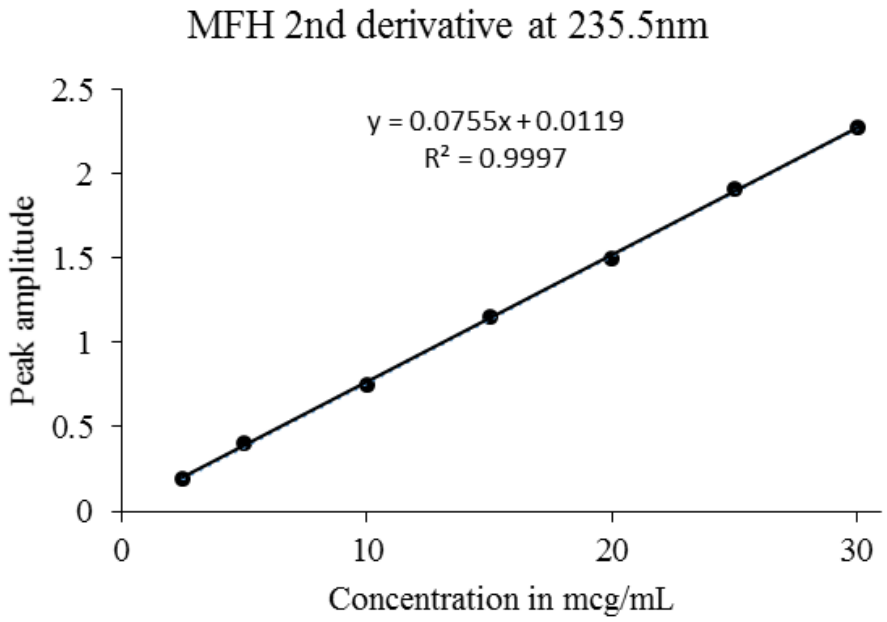
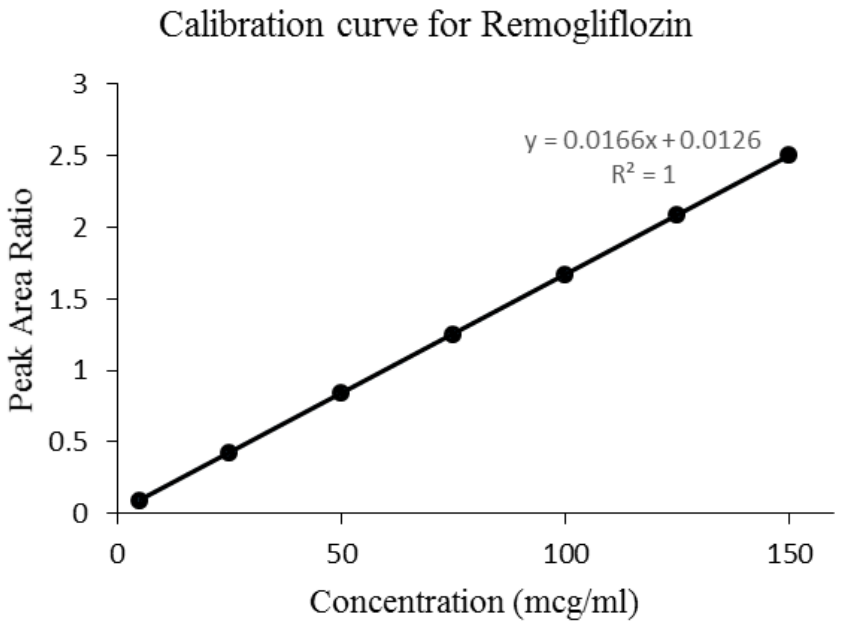


Fig S3: Calibration curves for RGE and MFH by RP-HPLC method



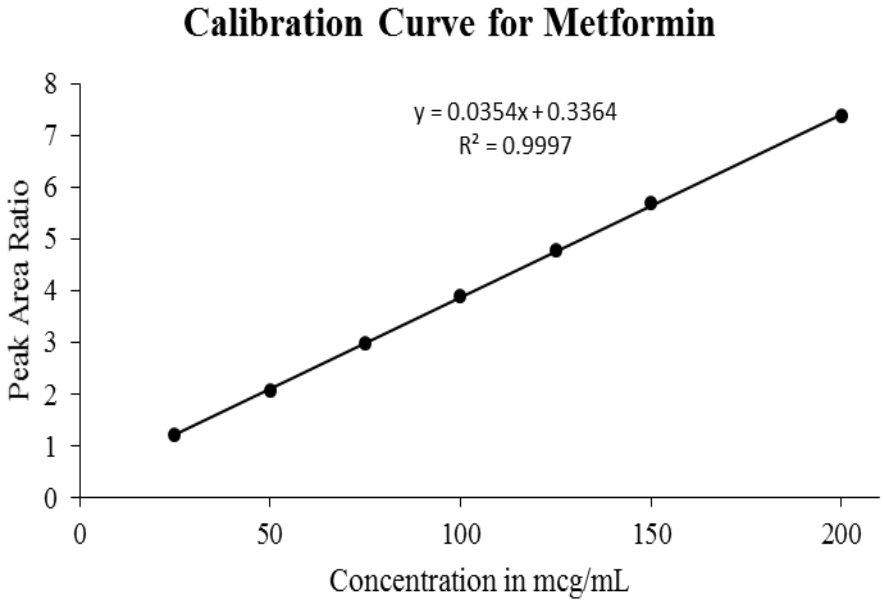


Figure S4

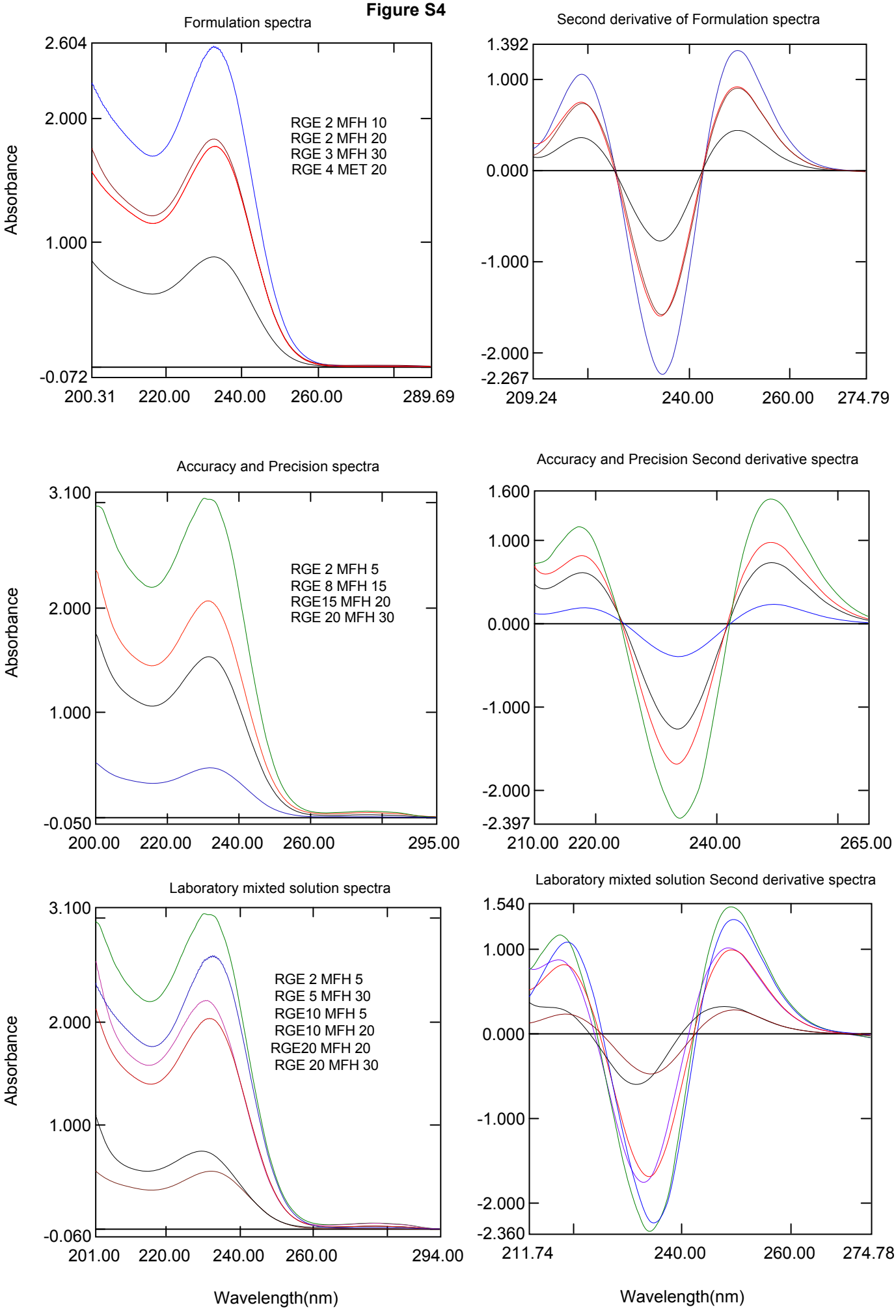

Formulation spectra
Absorbance
2.604
2.000
1.000
-0.072
200.31
220.00
240.00
260.00
289.69
RGE 2 MFH 10
RGE 2 MFH 20
RGE 3 MFH 30
RGE 4 MET 20
Second derivative of Formulation spectra
1.392
1.000
0.000
-1.000
-2.000
-2.267
209.24
240.00
260.00
274.79
Accuracy and Precision spectra
Absorbance
3.100
2.000
1.000
-0.050
200.00
220.00
240.00
260.00
295.00
RGE 2 MFH 5
RGE 8 MFH 15
RGE15 MFH 20
RGE 20 MFH 30
Accuracy and Precision Second derivative spectra
1.600
1.000
0.000
-1.000
-2.000
-2.397
210.00
220.00
240.00
265.00
Laboratory mixted solution spectra
Absorbance
3.100
2.000
1.000
-0.060
201.00
220.00
240.00
260.00
294.00
RGE 2 MFH 5
RGE 5 MFH 30
RGE10 MFH 5
RGE10 MFH 20
RGE20 MFH 20
RGE 20 MFH 30
Wavelength(nm)
Laboratory mixted solution Second derivative spectra
1.540
1.000
0.000
-1.000
-2.000
-2.360
211.74
240.00
260.00
274.78
Wavelength(nm)

Table S1: Results of Box Behnken model for robustness study

Flow Rate	Percent Acetonitrile	pH	Peak Area Ratio MFH/IS	Peak Area Ratio RGE/IS
2.2	42.0	3.7	4.564	0.969
2.2	44.0	3.5	4.386	0.910
1.8	40.0	3.5	5.009	0.995
2.0	42.0	3.5	4.589	0.904
1.8	44.0	3.5	4.221	0.903
2.0	44.0	3.3	4.345	0.930
2.0	42.0	3.5	4.497	0.898
1.8	42.0	3.3	4.200	0.895
2.0	42.0	3.5	4.501	0.887
1.8	42.0	3.7	4.122	0.745
2.2	42.0	3.3	4.408	0.947
2.0	40.0	3.3	4.467	0.015
2.0	40.0	3.7	4.162	0.708
2.0	42.0	3.5	4.459	0.895
2.0	42.0	3.5	4.501	0.887
2.0	44.0	3.7	4.201	0.809
2.2	40.0	3.5	4.614	0.900