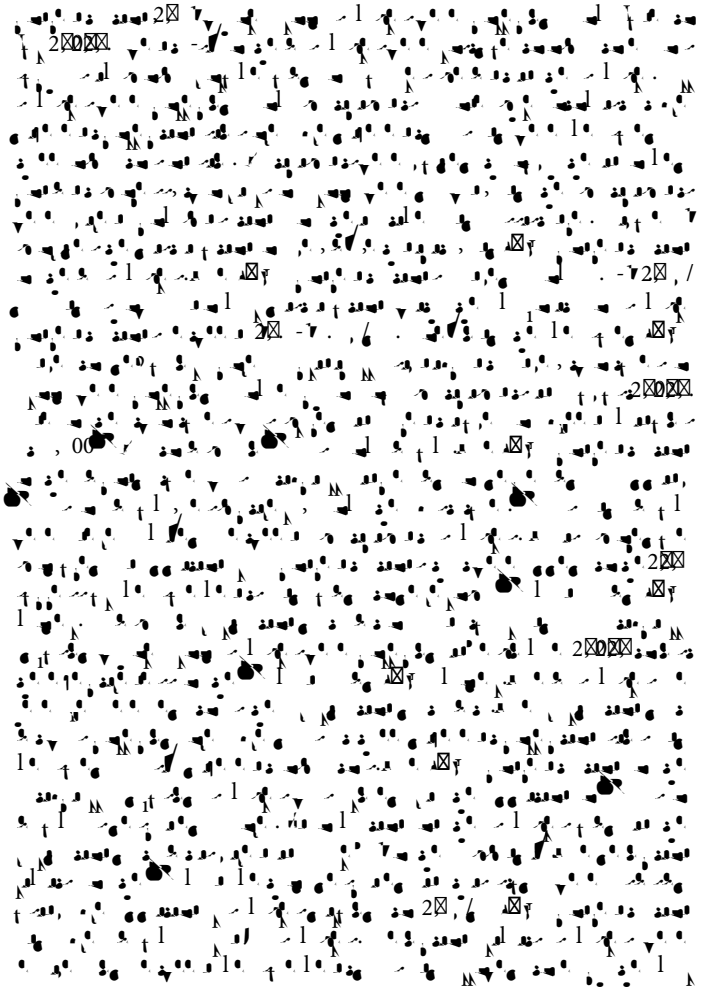
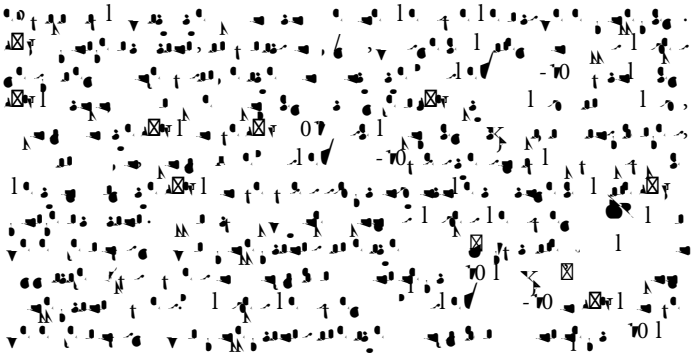
Journal of Analytical & Bioanalytical Techniques

Quantification of Hemoglobin Concentration in Whole Blood using Raman Spectroscopy





$$Rank\ Position = 0.5 + (B \cdot Pct_B)$$

Table S2 Low 1Low 2Low 3Low 4Low 5111.30.91.511 21.30.71.311 31.40.91.211.1 41.30.91.1

Day	Replicate	Sample 380	Sample 383	Sample 384	Sample 387	Sample 388
		Blank 1	Blank 2	Blank 3	Blank 4	Blank 5
1	1	0.3	0.4	0.4	0.4	0.3
	2	0.3	0.4	0.4	0.4	0.3
	3	0.3	0.4	0.4	0.4	0.3
	4	0.3	0.4	0.4	0.4	0.3
2	1	0.3	0.4	0.4	0.4	0.3
	2	0.3	0.3	0.4	0.3	0.3
	3	0.3	0.4	0.3	0.4	0.3
	4	0.3	0.3	0.4	0.4	0.3
3	1	0.3	0.4	0.4	0.4	0.3
	2	0.3	0.4	0.4	0.4	0.3
	3	0.3	0.4	0.4	0.4	0.3
	4	0.3	0.4	0.4	0.4	0.3

Performance Validation

$$\bar{d} = \sum_{i=1}^{N}(y_i - x_i)/N$$

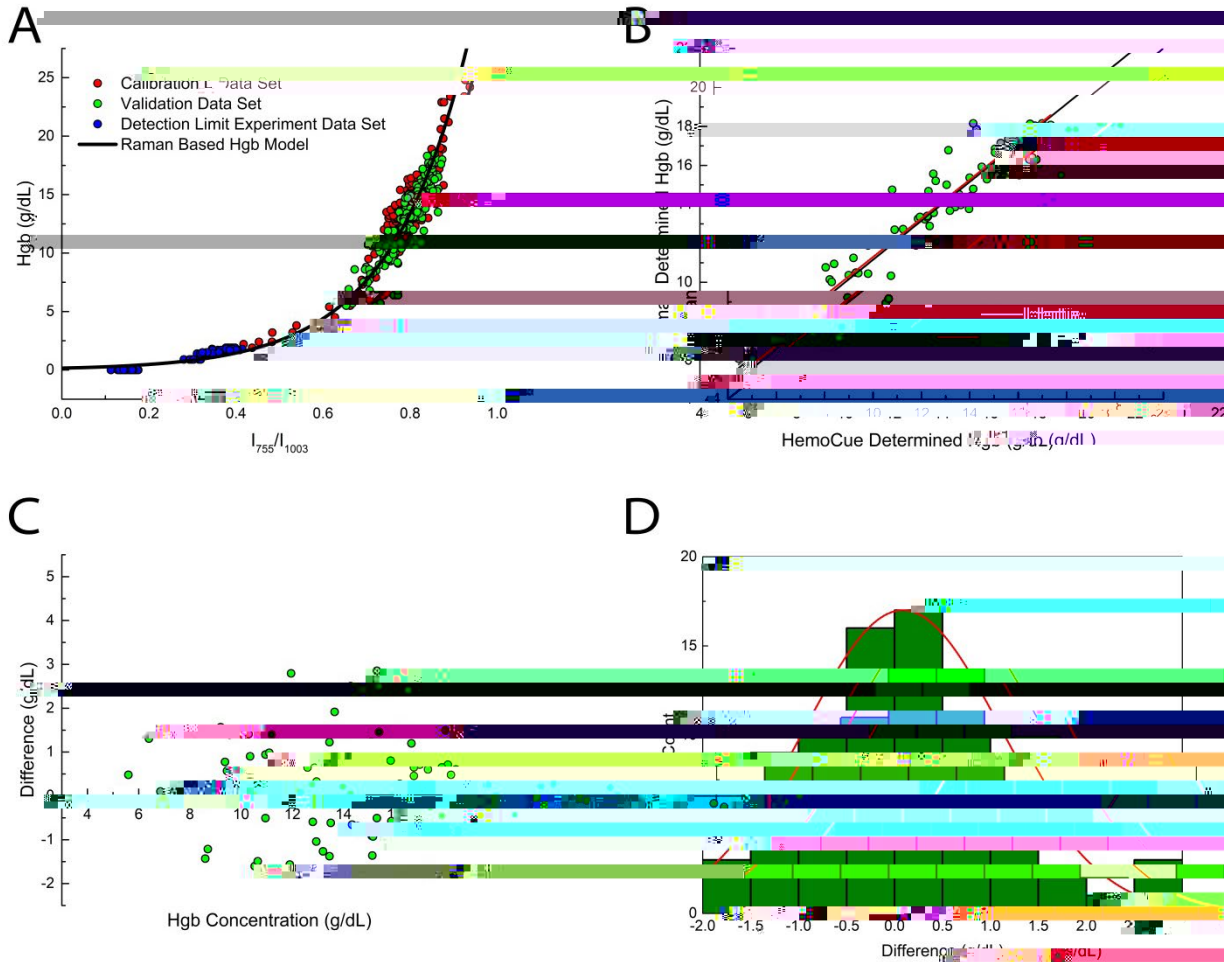
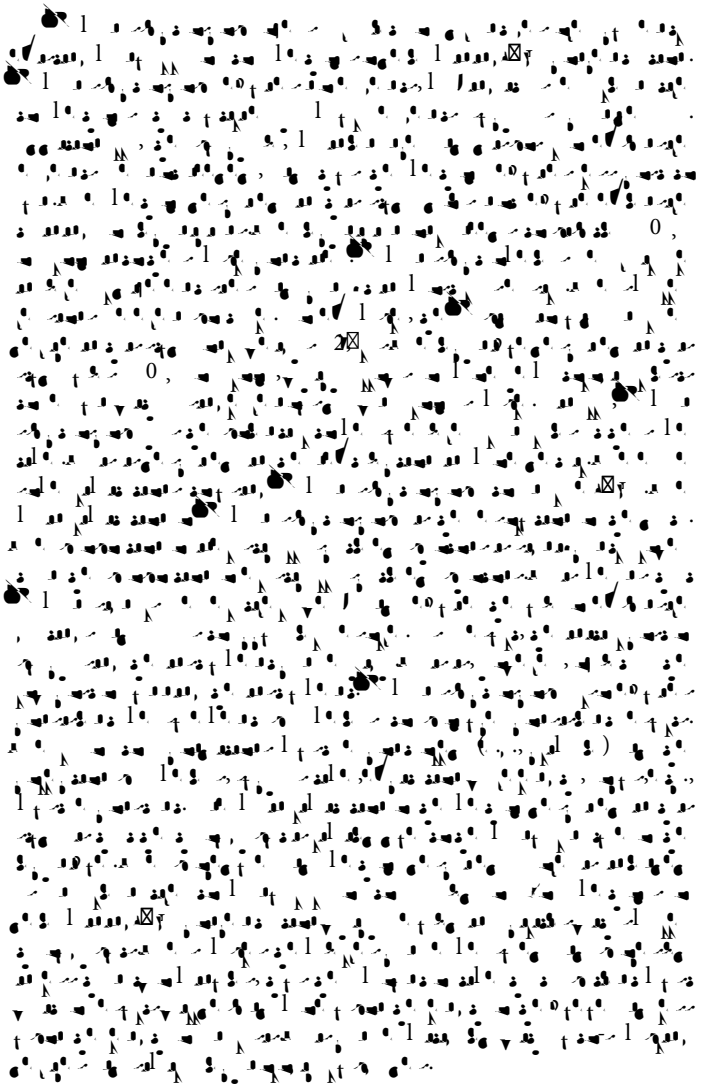
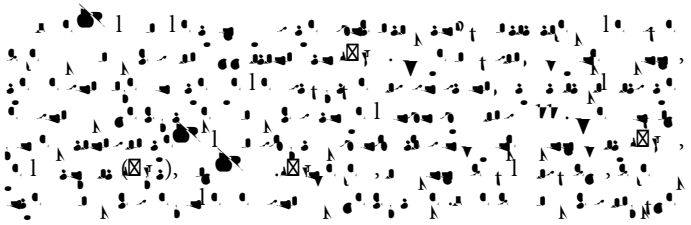


Figure 5: The results of the validation study. (A) Hgb concentration vs intensity ratio plot showing the calibration data set (red) validation data set (green) detection limit experiment data set (blue) and the Raman based Hgb model (black line). (B) : Relationship of Hgb concentration determined using the Raman method vs the HemoCue Hb

Advantages and Limitations



Prospects with Other Analytes



17. Zerme¶o-Nava J, Mart²nez-Mart²ne MU, R§mirez-de-Ćvila AL, Hern§ndez-Arteaga AC, Garc²a-Valdivieso MG, et al. (2018) Determination of sialic acid in saliva by means of surface-enhanced Raman spectroscopy as a marker in adnexal mass patients: Ovarian cancer vs benign cases. J Ovarian Res 11: 1ï9.

18. Radzol ARM, Lee KY, Mansor W (2013)