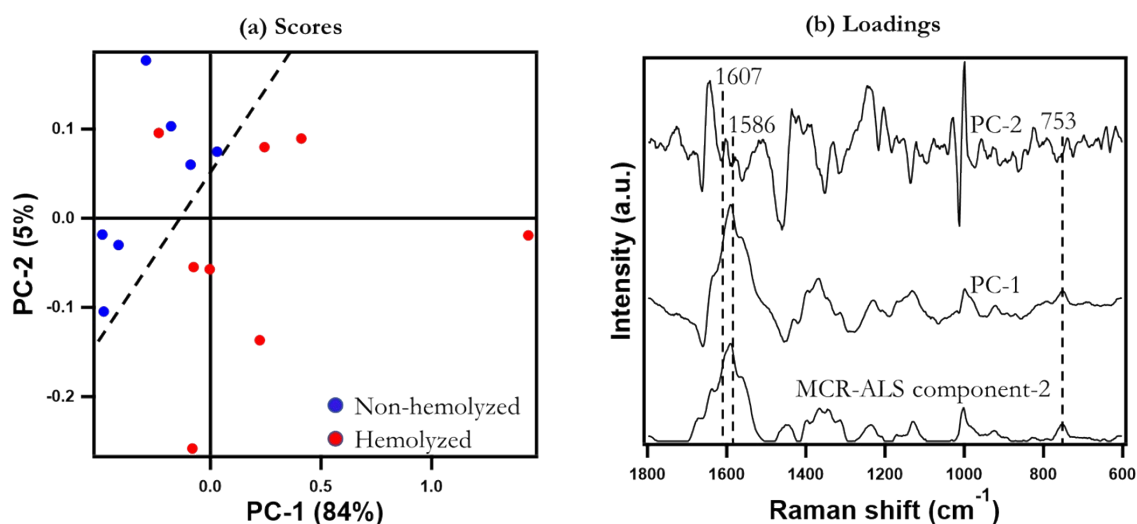# SUPPLEMENTARY INFORMATION

Removal of hemolysis interference in serum Raman spectroscopy by multivariate curve resolution analysis for accurate classification of oral cancers

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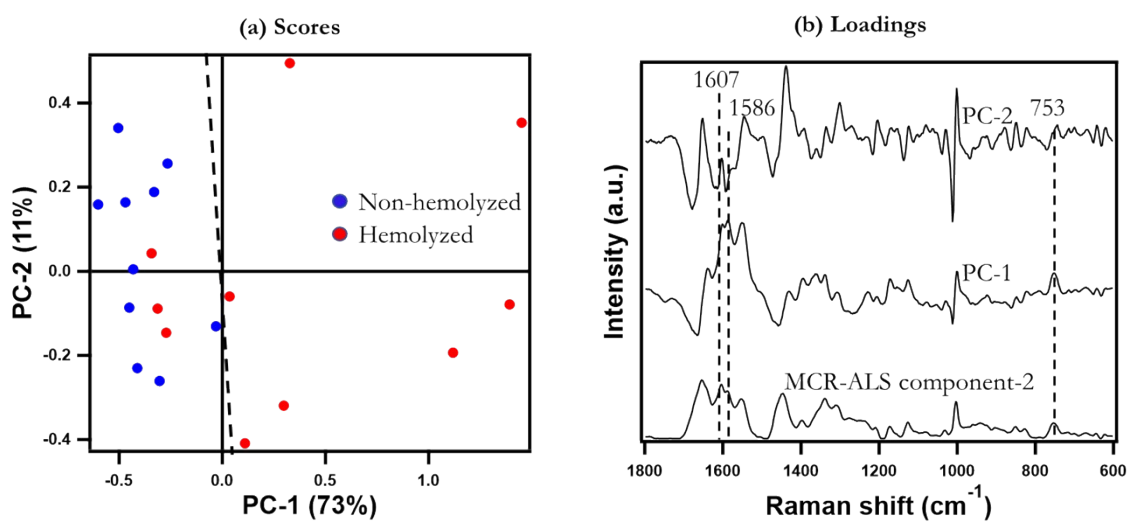
CONTROL GROUP

Yamamoto,[ef] Hemanth Noothalapati *[ef] and Murali Krishna C [bc]

Figure S1: PCA results of control group containing hemolyzed and non-hemolyzed Raman spectra. (a) PCA scores showing separability (dotted line) within the group and (b) corresponding PCA loadings compared with MCR-ALS component-2 (heme). PC-1 loading shows heme-related signatures like MCR-ALS component-2 indicating its role in separability.

Figure S2: PCA results of tumor group containing hemolyzed and non-hemolyzed Raman spectra. (a) PCA scores showing separability (dotted line) within the group and (b) corresponding PCA loadings compared with MCR-ALS component-2 (heme). PC-1 loading shows heme-related signatures like MCR-ALS component-2 indicating its role in separability.

TUMOR GROUP
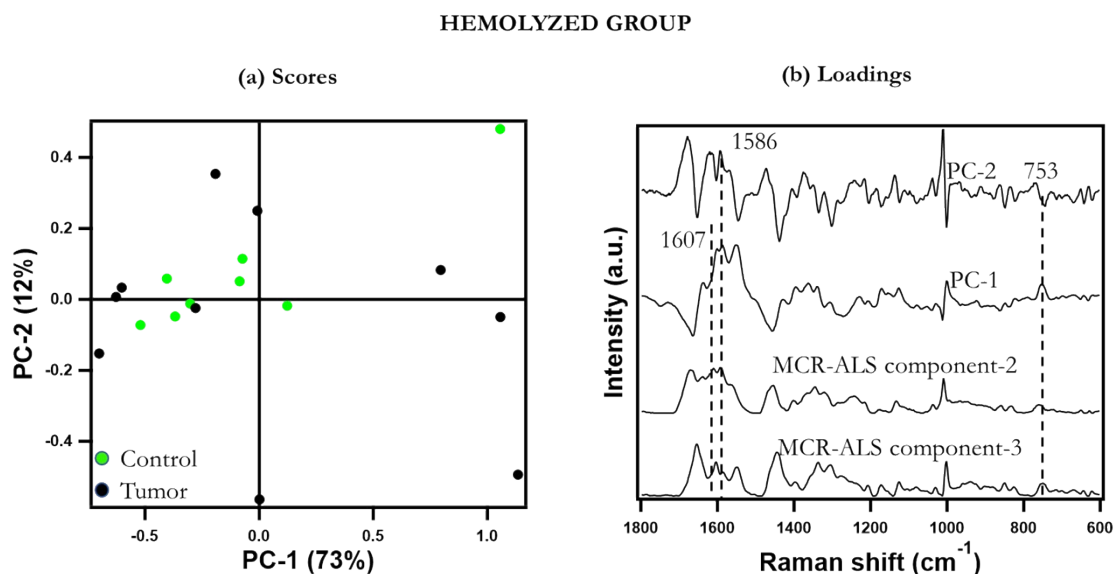
(a) Scores

(b) Loadings

Figure S3: PCA results of hemolyzed Raman spectra from control and tumor groups. (a) PCA scores showing no separability between the groups and (b) corresponding PCA loadings compared with MCR-ALS component-2 & 3 (heme). PC-1 loading shows heme-related signatures like MCR-ALS component-2 & 3 indicating its role in non-separability.
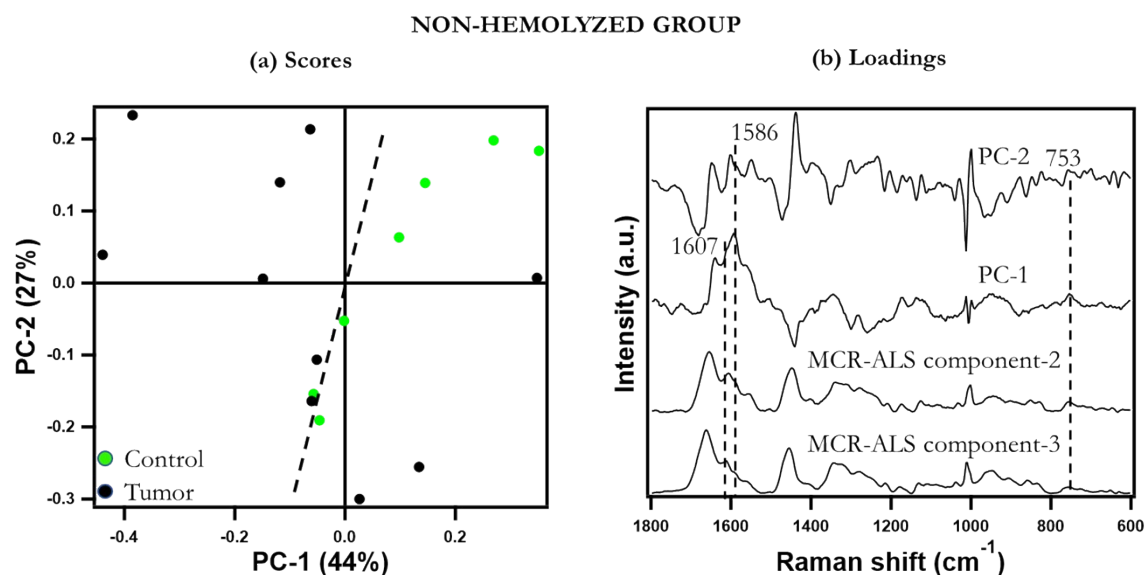
NON-HEMOLYZED GROUP

(a) Scores

(b) Loadings

Figure S4: PCA results of non-hemolyzed Raman spectra from control and tumor groups. (a) PCA scores showing good separability (dotted line) between the groups and (b) corresponding PCA loadings compared with MCR-ALS component-2 & 3. Though non-hemolyzed samples, heme related signatures are observed bands in PCA. As shown in the

manuscript, removal of such interference leads to even better separation between the two groups.