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APPENDIX

Appendix : The elemental composition of the unfractionated asphaltene (F5)

From mass balance concept

Briefly,

Basis 100 g of all asphaltenes samples

Assumption neglect other element contents not shown in the table

For example : Carbon balance

$$\begin{aligned} \text{Carbon presenting in F0} &= \Sigma (\text{Carbon presenting in each fraction}) \\ 85.615 &= (0.5092*85.595) + (0.2757*85.950) + \dots + \\ &\quad (0.1426*C5) \\ C5^* &= 85.679 \text{ wt\%} \end{aligned}$$

* wt% of carbon presenting in unfractionated asphaltene (F5)

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