Terra Nova Crude Oil

13C NMR

General Carbon Types

Aromatic Carbon = 16.45

Aliphatic Carbon = 83.49

Carboxylic/Carbonyl Carbon = 0.05

Protonated Aromatic Carbon = 7.89

Alkyl Substituted Aromatic Carbon = 7.79

Methine Carbon = 15.04

Methylene Carbon = 53.60

Methyl Carbon = 14.86

Average Molecule Description

Mole Fraction of Bridgehead Aromatics = 0.24

Av # Aromatic Carbons per Cluster = 11.71

Av # Aromatic Clusters per 100 Carbons = 1.40

Av # Alkyl Substitutions per Cluster = 4.45

Av # Methyl Substitutions per Cluster = 0.76

Av # Napthenic Substitutions per Cluster = 1.05

Av # CH2/CH Substitutions per Cluster = 2.64

Av # HeteroAtoms per Cluster = 0.55

Av # Naphthenic CH3 per Cluster = 2.05

Av # Naphthenic Rings per Cluster = 4.04

Av # of Paraffinic Carbons per Cluster = 33.48

Av Chain Length of Paraffinic Substitutions = 12.69

Aromatic Carbon Breakdown

Carbonyl Carbon = 0.01

Carboxyl Carbon = 0.05

Heteroaromatic Carbon = 0.77

Methylene/Methine Substituted Aromatic Carbon = 3.71

Napthene-Substituted Aromatic Carbon = 1.48

Methyl-Substituted Aromatic Carbon = 1.06

Internal Aromatic Carbon = 3.07

Peripheral Unsubstituted Aromatic Carbon = 6.36

Naphthenic Carbon Breakdown

Naphthenic Methine Carbon = 12.19

Naphthenic Methylene Carbon = 21.38

Naphthenic Methyl Carbon = 2.88

Total Naphthenic Carbon = 36.46

Paraffinic Carbon Breakdown

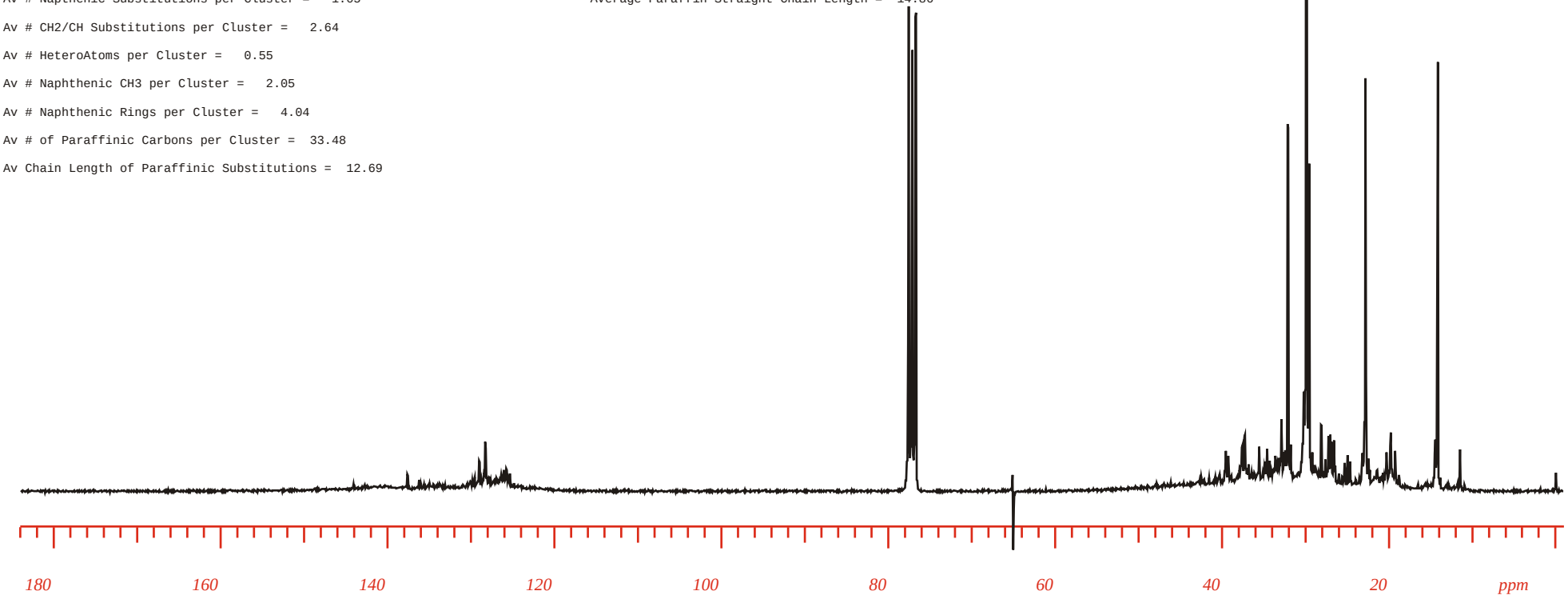
Paraffinic Carbon = 47.03

N-Paraffin Character of Sample = 26.43

N-Paraffin Character of Paraffins = 56.19

Degree of Branching in Paraffins = 0.23

Average Paraffin Straight Chain Length = 14.86



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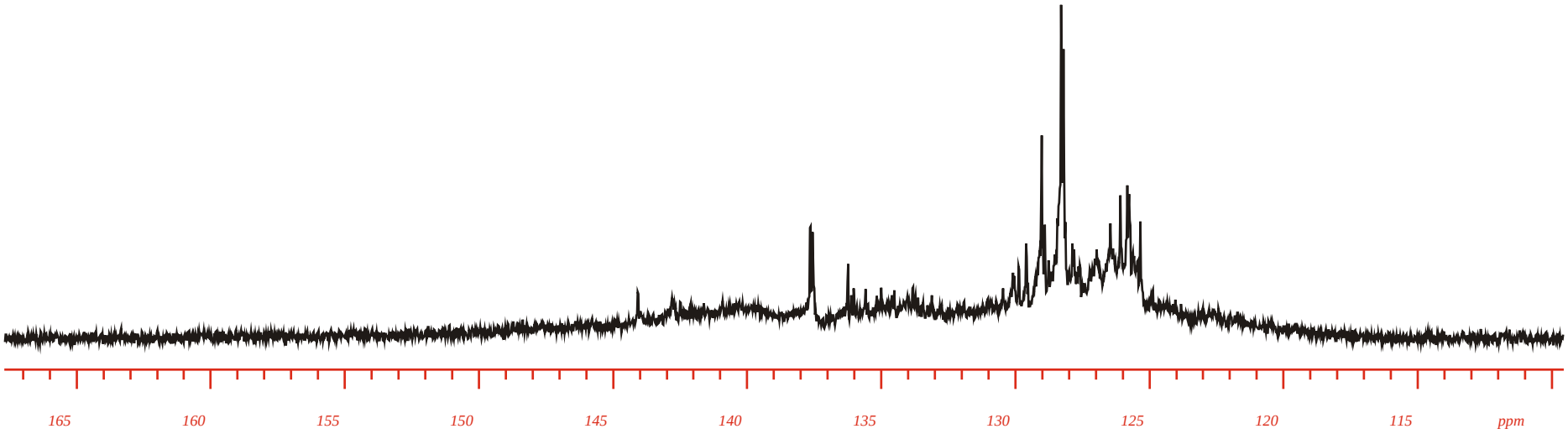
Aromatic Region



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13C NMR

Aliphatic Region