$F = \frac{10^{-10}}{(10^{-10})^2} + \frac{10^{-20}}{(10^{-10})^9}$ $F = 2\times10^{10}$

$F = \frac{10^{-10}}{(10^{-10})^2} + \frac{10^{-20}}{(10^{-10})^9}$ $F = 1,000000010\times10^{19}$

$F = 1\times10^{10} + 1\times10^{10}$

$F = 1\times10^{10} + 1\times10^{19}$

a) F1 is the short-range

b) 10^{-10} m.

c) $\frac{1}{2}$ of error. (± 50%)

$F = \frac{10^{-10}}{(10^{-10})^2} + \frac{10^{-20}}{(10^{-10})^9}$ $F = 1\times10^{28}$

$F = 10^{19} + 10^{28}$

2-C2 Butyl Bromide (oil) m = 260 micrograms 50×80 cm

Specific-gravity = 1.30 Mol. weight = 137 / N_A

a) Volume = 260 / 1.3 = 200×10^{-6} cm^3

b) Area of monolayer = 4000 cm^2

c) Thickness of monolayer = $2\times10^{-4} / 4\times10^{3} = 5\times10^{-8}$

d) Volume of one molecule = (137/NA)/1.3 = $1,749849133\times10^{-22}$ cm^3

e) Number of Molecules = a / d = $1,142956200\times10^{18}$

f) Number of moles of oil = 260×10^{-6} / 137 = $1,899810222\times10^{-6}$

g) Number of Molecules per Mole = $2,224802822\times10^{-22}$

The value is different because that there is less than 1 mole of the substance.