

Comments

1. Lines 8-11. In my opinion, the very short definition given in these lines can be improved by adopting a wider and more traditional one, such as:

‘In greater detail, the hydrogen bond can be defined as an attractive interaction having the general form $R!D!H\cdots:A!R'$, where D is the proton donor (an electronegative atom, such as F, O, N, C, S, Cl, Br and I) and :A the proton acceptor or lone electron pair carrier (a second electronegative atom or the π -bond of a multiple bond). The hydrogen bond can also be seen as a single proton sharing two lone electron pairs from two adjacent electronegative atoms or groups: $R!D:\cdots H^+ \cdots :A!R'$.’

2. Line 24. Since the ‘charge-transfer’ is directly related to ‘the formation of a partial covalent bond’, I suggest to modify line 24 in the following way:
‘... acceptor, and those originating from dispersion. The charge-transfer forces are

3. Line 45. ‘The interaction Gibbs free energy...’ instead of ‘The Gibbs interaction energy ...’

4. Lines 72, 73. In its actual form, the sentence is rather obscure. Maybe it can be improved by the following small changes:

‘... a given donor/acceptor couple...’ instead of ‘... a given donor/acceptor ...’ (line 72); and
‘... one acceptor or donor, respectively,...’ instead of ‘... one acceptor/donor respectively,...’ (line 73).

5. Lines 104, 105. The blue shift is reportedly a weak-bond phenomenon. Hence:

‘... certain very weak hydrogen bonds ...’ instead of ‘... certain hydrogen bonds ...’ (line 104);
‘... a small blue shift ...’ instead of ‘... a blue shift ...’ (line 105).

6. Somewhere. In the text there is no mention of the hydrogen-bond energies. I suggest the following:

‘ $D!H\cdots:A$ hydrogen-bonded interactions reportedly display a wide interval of binding energies, ranging from less than one to more than 30 kcal mol⁻¹ (45 kcal mol⁻¹ if $[F\cdots H\cdots H]^-$ bonds are considered), and this because of two independent factors. (i) bonds are the stronger the more electronegative the donor (D) and the acceptor (:A) are; (ii) for a same D-A couple, bonds are the stronger the more similar the proton affinities of D and A are.’