

This Week's Citation Classic

Murthy A S N & Rao C N R. Spectroscopic studies of the hydrogen bond. *Appl. Spectrosc. Rev.* 2:69-191, 1968. [Dept. Chemistry, Purdue Univ., Lafayette, IN]

This timely article which presented important results and correlations from spectroscopic studies has become a valuable resource paper on hydrogen bonding. [The *SCI*[®] indicates that this paper has been cited over 105 times since 1968.]

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October 29, 1980

"Hydrogen bonding is a phenomenon of great importance in chemistry and biology. Understanding of this weak interaction is extremely essential to explain many of the properties of molecules. Hydrogen bonding is of great interest in biology because of its occurrence in biological systems like proteins and nucleic acids. Hydrogen bond formed the subject matter of an excellent book by Pimentel and McClellan¹ published in 1960. The most powerful ways available to study hydrogen bonding are infrared, Raman, electronic, NMR, and other spectroscopic methods. A number of workers from all parts of the world were carrying out spectroscopic studies of the hydrogen bond, particularly after 1960. A number of interesting results became available during the 1960s.

"I myself have been interested in the spectroscopy and theory of the hydrogen bond for the past several years. I thought it would be most valuable to the spectroscopic com-

munity as well as to those interested in hydrogen bonding phenomenon to have an up-to-date article which not only reviewed all the important information but also presented interesting correlations of spectroscopic and thermodynamic data. I decided to do this as early as 1964. My doctoral student (A. S. N. Murthy) and I prepared an in-house technical report and sent it to a number of active workers in the field. We were soon inundated by requests from all over the world for copies of the report. I then decided to write a proper review article when I was on my sabbatical at Purdue University during 1967-68 where Murthy was a postdoctoral fellow. We are both delighted that this article has been found to be so very useful by workers in the fields of hydrogen bonding and spectroscopy. Since the publication of this article a number of papers and reviews²⁻⁴ have appeared in the literature and many of them have generously quoted our article.

"I have written several papers and reviews which I consider to be important and valuable, but it appears that this review on the spectroscopy of the hydrogen bond was useful to a larger audience. It was also probably very timely. This really points out the need to write critical review articles at the most appropriate time when workers may need it. What tickles me most is the fact that a review I wrote as an obligation to the research community has made the grade."

1. Pimentel G C & McClellan A L. *The hydrogen bond*. San Francisco: Freeman, 1960. 475 p.
2. Hydrogen bonding. *Annu. Rev. Phys. Chem.* 22:347-85, 1971.
3. Hadzi D & Brntos J. Vibrational spectroscopy of the hydrogen bond. (Schuster P, Zundel G & Sandorfy C, eds.) *The hydrogen bond*. Amsterdam: North Holland, 1976. Vol. II, p. 565-611.
4. Tucker E E & Lippert E. High resolution nuclear resonance studies of hydrogen bonding. (Schuster P, Zundel G & Sandorfy C, eds.) *The hydrogen bond*. Amsterdam: North Holland, 1976. Vol. II, p. 791-830.