

## Letter to the Editor

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### DIPOLE MOMENTS OF TRI-SUBSTITUTED BENZENES. PART I

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Following the author's previous work on tri-substituted benzenes (Rao, 1955-56) the dipole moments of a few other similar molecules (the substituent groups being Cl and NO<sub>2</sub>) are determined in solution in benzene at 30°C. The calculations are extended to include 1, 2, 3 substitution also. The results are presented in the following table.

TABLE

Compound	observed	calculated
2, 4-Dichlorotoluene	1.95 D	1.95
2, 6-Dichlorotoluene]	1.11	0.75
3, 4-Dichlorotoluene	2.95	2.82
4-Chloro 2-Nitrotoluene	3.63	3.68
6-Chloro 2-Nitrotoluene]	2.95	2.83
4-Chloro 3-Nitrotoluene	4.82	4.88
6-Chloro 3-Nitrotoluene	3.11	2.92
2-Chloro 4-Nitrotoluene	4.05	3.88

It will be seen from the table that the agreement between the calculated and the observed values is satisfactory.

Full details will be communicated shortly.

ACKNOWLEDGMENTS

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REFERENCES

- Rao Narasimha, D. V. G. L., 1955 *Ind. J. Phys.*, **29**, 49.  
„ 1956, *Ibid* ' **30**, 91.