Chapter VII

Research publications


5 Rohit S. Bavi, Asmita D. Kamble, Navanath M. Kumbhar, Bajarang V. Kumbhar, and Kailas D. Sonawane (2011). Conformational preferences of modified nucleoside N²-methylguanosine (m²G) and its derivative N², N²-dimethylguanosine (m²²G) occur at 26th position (hinge region) in tRNA. Cell Biochemistry and Biophysics. 65, 507-5212.

6 Susmit B Sambhare, Navanath M Kumbhar, Asmita D. Kamble, Bajarang V Kumbhar, and Kailas D Sonawane (2011). Molecular Modelling study to investigate conformational preferences and base stacking interactions of
hypermodified nucleoside lysidine ($k^2$C) incorporated in the trinucleotide segment of anticodon loop of tRNA. **Bionano Frontier.** 4(2), 191-196.

7 Kailas D Sonawane, **Bajarang V Kumbhar**, Navanath M Kumbhar, Susmit B Sambhare, Asmita D. Kamble, and Rohit S Bavi (2011). Quantum chemical study to investigate the effects of 5′-3′ diphosphate backbone on the conformation of hypermodified nucleotide lysidine ($k^2$C) occur at wobble (34th) position in the anticodon loop of tRNA. **International Journal of Bioinformatics Research**, 3(1), 148-160.

**Paper communicated:** (02)

1. **Bajarang V Kumbhar**, Asmita D Kamble and Kailas D Sonawane (2012). Conformational preferences and molecular dynamics simulation study of ‘Wobble’ 34th position hypermodified nucleoside $ac^4$C present in the anticodon loop of tRNA. Communicated to **Cell Biochemistry and Biophysics. Under revision, Manuscript ID:** CBBI-D- 12-00086.


**Paper under preparation:**

1. Molecular dynamics simulation study of anticodon stem loop (ASL) segment of *Escherichia coli* elongator tRNA$^{Met}$ containing $ac^4$C at 34 and $t^6$Ade at 37 positions.
1. **Bajarang V. Kumbhar** and Kailas D. Sonawane “Molecular dynamics simulation study of model anticodon stem loop structure of tRNA containing hypermodified nucleosides ac^{4}C at 34^{th} and mS^{2}hn^{6}Ade at 37^{th} position” in “Symposium on Accelerating Biology 2012: Computing to decipher”, organized by Bioinformatics group, Center for Development of Advanced Computing C-DAC Pune, India 15-17^{th} February, Page-68-69 (2012). **Oral presentation.**

2. Navanath M Kumbhar, **Bajarang V Kumbhar** and Sonawane K. D. International Interdisciplinary Science Conference on: Bioinformatics; an Interface between Computer Science and Biology, organized by Centre for Interdisciplinary Research in Basic Sciences, Jamia Milia Islamia University, New Delhi, November, 15-17 (2011).


5. **Bajarang V. Kumbhar**, Navanath M. Kumbhar and Kailas D. Sonawane. “Conformational preferences of N6- hydroxynorvalylcarbamoyl adenine, hn^{6}Ade and ms^{2}hn^{6}Ade present at 37^{th} position in the anticodon loop of tRNA”. In 8^{th} Asia Pacific Bioinformatics conference (APBC), January 18 - 21, Bangalore. India (2010).