

# KONSTANTIN TSVAYGBOYM

Phone: (609) 638 - 4154

**E-mail** | info @ DrKon.com **Web** | DrKon.com **LinkedIn** | LinkedIn.com/in/DrKon

## WORK EXPERIENCE

**SANCILIO & COMPANY INC**, Riviera Beach, FL.

**Sr. Scientist.** *October 2010 – Present.*

- Developed HPLC Method and performed Method Validation.
- Performed HPLC assays and USP tests for different projects.
- Worked in GLP & GMP environment.
- R&D and Quality Control of Drugs and Nutritional Supplements.

**PROFESSIONAL SERVICE GROUP**, Trenton, NJ.

**Member of Training Committee.** *May – August 2010.*

- Supported activities of Training Committee to help professionals in transition.

**Sabbatical** to explore different business ventures. *January 2008 – May 2010*

**SCHERING-PLOUGH**, Summit, NJ.

**Sr. Scientist.** Molecular and Materials Characterization group. *April – December 2007.*

- Supported drug discovery projects at early stages.
- Successfully formulated 20+ lead molecules for *in vivo* testing on small animals. This work allowed narrowing search to 4 most potent *in vivo* drugs. Performed following steps to prepare formulations:
  - Developed HPLC methods for new drugs.
  - Profiled drugs solubilities and stabilities.
  - Prepared and characterized intravenous (IV) and oral formulations.

**RICE UNIVERSITY**, Houston, TX.

**Research Assistant.** Prof. P. S. Engel's research group. *May 2000 – April 2007.*

- Demonstrated two-step carbon nanotube sidewall modification with electron rich nucleophiles at normal conditions.
- Successfully modified Single Walled Carbon Nanotube (SWNT) sidewall with a variety of compounds found in nature: amino acids, amines and thiols.
- Conducted in-depth study concerning the mechanism of rearrangement of alpha-azoxy ketones to azoesters.

**ZELINSKY INSTITUTE OF ORGANIC CHEMISTRY**, Moscow, Russia.

**Research Assistant.** Prof. S. L. Ioffe's research group. *September 1998 – March 2000.*

- Developed a new, convenient method for synthesis of gamma-nitro alcohols from simple aliphatic nitro compounds.

## SKILLS

MS Word, Excel, PowerPoint, Outlook, Sigma Plot, FrontPage, Adobe Acrobat Professional, Adobe Photoshop, Corel Draw, programming on Visual Basic for MS Excel, C++ Programming, SQL Programming, Reference Manager, EndNote, WebCT design, strong communication and presentation skills with PowerPoint.

Technical Skills:

Good Laboratory Practice (GLP) & Good Manufacturing Practice (GMP) compliance, Quality Control (QC), USP & EP Test Methods, FDA & ICH guidelines, HPLC Method Validation, HPLC (Waters Empower, Agilent ChemStation, Perkin Elmer), HPLC methods development, formulation stability (HPLC assays), dissolution, UV-Vis, crystallization, powder X-ray (PXRD), pH and hERG solubility profiling, Thermal Gravimetric Analysis (TGA), Differential Scanning Calorimetry (DSC), pKa determination (UV shift, pION), force degradation study, Column Chromatography, Raman, MALDI, Atomic Force Microscopy (AFM), Transmission Electron Microscopy (TEM), Gas Chromatography (GC), GC-MS (Varian), Liquid Chromatography-Mass Spectrometry (LC-MS), Thin Layer

Chromatography (TLC), 1D (1H, 13C, 31P) Nuclear Magnetic Resonance (NMR) and 2D (1H-1H, 1H-13C) NMR, Fluorescence, Karl Fisher (KF), X-ray Photoelectron Spectroscopy (XPS), Drug Dissolution, Content Uniformity, FT-IR methods for purification and analysis.

## EDUCATION

**RICE UNIVERSITY**, Houston, TX.

Ph. D. in Physical Organic Chemistry / Organic Synthesis, April 2007 G. P. A. 3.73 / 4.00

**THE HIGHER CHEMICAL COLLEGE OF THE RUSSIAN ACADEMY OF SCIENCES**, Moscow, Russia.

B. S. in Chemistry, February 2000 G. P. A. 3.45 / 4.00

## MANAGEMENT AND TEACHING

**RICE UNIVERSITY**, Houston, TX.

**Leading Teaching Assistant.** January – April 2003.

- Organized and managed ten graduate students in Organic Chemistry Lab (with enrollment of 200 students).
- Held weekly organizational meetings and prepared instructions for teaching assistants.
- Managed lab web site.
- Initiated and managed production of video presentations that resulted in improved student performance.

**Discussion leader.** September 2002 – April 2003.

- Held weekly discussion sessions and graded exams for General Chemistry class (September 2002- April 2003).
- Held weekly discussion sessions and graded exams for Advanced Organic Chemistry class (September- December 2002).

**WebCT designer.** September 2003 – April 2004.

- Designed and managed General Chemistry WebCT website.

## AWARDS

Schering-Plough Corporate Cash Award for going above and beyond regular duties, 2007

Robert A. Welch Foundation Predoctoral Fellowship 2003 – 2005.

Harry B. Weiser Graduate Student Award for Excellence in Teaching 2003.

## PROFESSIONAL AFFILIATIONS

American Chemical Society, 2001 – present.

Ideas to Action (ITA) - Rice University Entrepreneurial Society, 2004-2006.

## PUBLICATIONS

Engel, P. S., Billups, W. E., Abmayr, D. W., Tsvaygboym, K. & Wang, R. (2008). Reaction of single-walled carbon nanotubes with organic peroxides. *Journal of Physical Chemistry C*, 112 (3), 695 -700. doi: 10.1021/jp0770054. Full Text available at: <http://bit.ly/baHZaS>

Tsvaygboym, K. P. (2007). *Photochemical studies of single-walled carbon nanotube ozonides and alpha-azoxy ketones*. Doctoral Dissertation, Houston, TX: Rice University. Full Text available at: <http://bit.ly/d5sDLU> (searchable PDF) or <http://scholarship.rice.edu/handle/1911/20658> (non-searchable PDF)

Engel, P. S., Tsvaygboym, K. P., Bachilo, S., Smith, W. B., Jiang, J., Chignell, C. F. & Motten, A. G. (2005). Photorearrangement of alpha-azoxy ketones and triplet sensitization of azoxy compounds. *Journal of Organic Chemistry*, 70 (7), 2598-2605. doi: 10.1021/jo040274v. Full Text available at: <http://bit.ly/93ESnV>

Engel, P. S., Duan, S., He, S., Tsvaygboym, K., Wang, C., Wu, A.,... Smith, W. B. (2003). The free radical chemistry of the azoxy group. *ARKIVOC*, 2003 (12), 89-108. doi: HS-810JR. Full Text available at: <http://www.arkat-usa.org/get-file/18842>

Kunetsky, R. A., Dilman, A. D., Tsvaygboym, K. P., Ioffe, S. L., Strelenko, Y. A. & Tartakovsky, V. A. (2003). A new strategy for the synthesis of gamma-nitro alcohols from aliphatic nitro compounds. *Synthesis*, 2003 (9), 1339-1346. doi: 10.1002/chin.200347074. Full Text available at: <http://bit.ly/cbu8bg>