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Evaluation of the Effect of Consciousness Energy Healing Treatment on the Crystal and Particle Characteristics of Aluminium Powder

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Abstract

Aluminium has many applications in the ceramics, paints, pharmaceuticals, cosmetics, chemicals, metals, and electrical industries. In this study, the influence of the Trivedi Effect®-Consciousness Energy Healing Treatment on the physicochemical and thermal properties of aluminium powder was evaluated. The test sample was divided into control and the treated parts. The control aluminium powder sample did not receive the Biofield Energy Treatment, while the treated sample received the Trivedi Effect®-Consciousness Energy Healing Treatment remotely by a renowned Biofield Energy Healer, Gopal Nayak. The powder X-ray diffraction data exhibited that the peak intensities of the treated aluminium powder were significantly altered ranging from -2.11% to 16.03% compared to the control sample. Similarly, the crystallite sizes of the treated aluminium powder sample were significantly altered ranging from 1.48% to 30.65% compared to the control sample. Though, the average crystallite size of the treated powder sample was significantly increased by 13.65% compared with the control sample. The particle size values in the treated aluminium were significantly decreased by 36.24% (d_{10}), 18.92% (d_{50}), 17.89% (d_{90}), and 20.28% {D (4,3)} compared to the control sample. The specific surface area of the treated aluminium powder (0.366 m^2/g) was significantly increased by 41.31% compared with the control sample (0.259 m^2/g). The Trivedi Effect®-Consciousness Energy Healing Treatment might lead to generate a new polymorphic form of aluminium. The novel form of aluminium would improve the quality of pharmaceuticals, cosmetics, paper products, paints, varnishes, dental cement, glass, ceramics, waterproofing fabrics, etc. The Biofield Energy Treated aluminium would be useful for the aerospace industry, building industries, transportation industry, packaging, household items, electrical transmission lines, paint, solid rocket fuel, explosive, etc.

Keywords: Aluminium; Consciousness Energy Healing Treatment; The Trivedi Effect®; PXRD; Particle size; Surface Area

Introduction

Aluminium (Al) is a third most abundant element of the earth crust and extraordinary for its low density and its ability to resist corrosion. Aluminium itself and its alloys are very important to the aerospace industry, building industries (i.e., building facades and window frames), transportation industry (automobiles, trucks, railway cars, marine vessels, bicycles, etc.), packaging (cans, foil, container, etc.), household items (cooking utensils, baseball bats, watches, etc.), electrical transmission lines, paint, solid rocket fuel, explosive, etc. [1-3]. Many aluminum compounds such as, aluminium acetate as an astringent; aluminium phosphate used for the manufacture of glass, ceramic, paper products, cosmetics, paints, varnishes, and dental cement; aluminium hydroxide as an antacid, water purifier, manufacture of glass and ceramics, and waterproofing fabrics; lithium aluminium hydride as a powerful reducing agent; organoaluminiums used as Lewis acids, catalysts, etc. [1,4-8]. Insoluble in water and organic solvents, and soluble in dilute hydrochloric acid [9].

Physicochemical properties of a substance play a crucial role in manufacturing and other industrial purposes. Therefore, in this study, special attention was taken to improve these parameters of aluminium. In this scenario, it was experimentally proved that Biofield Energy Healing Treatment (i.e., the Trivedi Effect®) has a significant impact on the physicochemical properties of many substances [10-12]. The Trivedi Effect® is a natural and only scientifically proved phenomenon in which a person can harness this inherently intelligent energy and transfer it anywhere on the planet by means of the possible mediation of neutrinos [13]. A unique energy field exists surrounding the every living organism's body known as Biofield Energy, which is infinite, para-dimensional electromagnetic field. The Biofield based Energy Healing Therapies have been reported to have noteworthy conclusions against various disease conditions [14]. The National Institutes of Health (NIH) and the National Center for Complementary and

Alternative Medicine (NCCAM) recommend and included the Energy therapy under Complementary and Alternative Medicine (CAM) category, which has been accepted by most of the USA population with several advantages [15,16]. So many scientific experiments were conducted in order to prove the impact of the Trivedi Effect®-Consciousness Energy Healing Treatment on the non-living and living object(s). The Trivedi Effect® was a proved phenomenon with significantly outcome in versatile field, i.e. organic compounds, metals and ceramic, nutraceuticals, pharmaceuticals, cancer cells, microorganisms, and agriculture also [17-30]. Therefore, this study was designed to determine the impact of the Trivedi Effect®-Consciousness Energy Healing Treatment on the physicochemical, and thermal properties of aluminium powder using powder X-ray diffraction (PXRD) and particle size analysis (PSA) analytical techniques.

Material and Methods

Chemicals and Reagents

Aluminium powder was purchased from Parshwamani Metals, Mumbai, Maharashtra, India and other chemicals used in the experiments also purchased from India.

Consciousness Energy Healing Treatment Strategies

The test sample aluminium powder was divided into two parts. One part of powder sample termed as control sample which did not receive the Biofield Energy Treatment. But, the control sample was treated with a "sham" healer, who did not have any knowledge about the Biofield Energy and its treatment. The second part was treated with the Trivedi Effect®- Consciousness Energy Healing Treatment remotely under standard laboratory conditions for 3 minutes and known as the Biofield Energy Treated aluminium sample. This Biofield Energy Treatment was provided through the healer's unique energy transmission process by the renowned Biofield Energy Healer, Gopal Nayak, India, to the test sample. After the treatment both the test samples were kept in sealed conditions and characterized using PXRD and PSA techniques.

Characterization

Powder X-ray Diffraction (PXRD) Analysis: The PXRD analysis of control and Biofield Energy Treated aluminium powder was performed with the help of Rigaku MiniFlex-II Desktop X-ray diffractometer (Japan) [31,32]. The average size of individual crystallites was calculated from XRD data using the Scherrer's formula (1)

$$G = k\lambda/\beta\cos\theta \quad \textbf{(1)}$$

Where k is the equipment constant, G is the crystallite size in nm, λ is the radiation wavelength, β is the full-width at half maximum, and θ is the Bragg angle [33].

The % change in crystallite size (G) of aluminium was calculated using the following equation 2:

$$\%\ \text{change in crystallite size} = \frac{\left[G_{\text{Treated}} - G_{\text{Control}}\right]}{G_{\text{Control}}} \times 100 \quad \textbf{(2)}$$

Where $G_{Control}$ and $G_{Treated}$ are the crystallite size of the control and Biofield Energy Treated samples, respectively

Particle Size Analysis (PSA): The particle size analysis of aluminium powder was conducted on Malvern Mastersizer 2000, UK with a detection range between 0.01 μm to 3000 μm using wet method [34,35]. The calculations were done by using software Mastersizer Ver. 5.54.

The % change in particle size (d) for aluminium powder was calculated using the following equation 3:

$$\%\ \text{change in particle size} = \frac{\left[d_{\text{Treated}} - d_{\text{Control}}\right]}{d_{\text{Control}}} \times 100 \quad \textbf{(3)}$$

Where $d_{Control}$ and $d_{Treated}$ are the particle size (μm) for at below 10% level (d_{10}), 50% level (d_{50}), and 90% level (d_{90}) of the control and Biofield Energy Treated aluminium samples, respectively

The % change in surface area (S) was calculated using the following equation 4:

$$\%\ \text{change in surface area} = \frac{\left[S_{\text{Treated}} - S_{\text{Control}}\right]}{S_{\text{Control}}} \times 100 \quad \textbf{(4)}$$

Where $S_{Control}$ and $S_{Treated}$ are the surface area of the control and Biofield Energy Treated aluminium samples, respectively

Results and Discussion

Powder X-ray Diffraction (PXRD) Analysis

The PXRD diffractograms of both the control and Biofield Energy Treated aluminium powder were showed sharp and intense peaks (Figure 1) indicated that both the samples were crystalline in nature. The PXRD diffractograms of the control and Biofield Energy Treated aluminium showed the highest peak intensity at 2θ equal to 38.74° and 38.41°, respectively (Table 1, entry 1). Overall the peak intensities of the Biofield Energy Treated aluminium powder were significantly altered ranging from -2.11% to 16.03% compared to the control sample (Table 1, entry 1-4). Therefore, the crystallite sizes of the Biofield Energy Treated aluminium were significantly altered ranging from 1.48% to 30.65% compared to the control sample. However, the average crystallite size of the Biofield Energy Treated aluminium was significantly increased by 13.65% compared with the control sample.

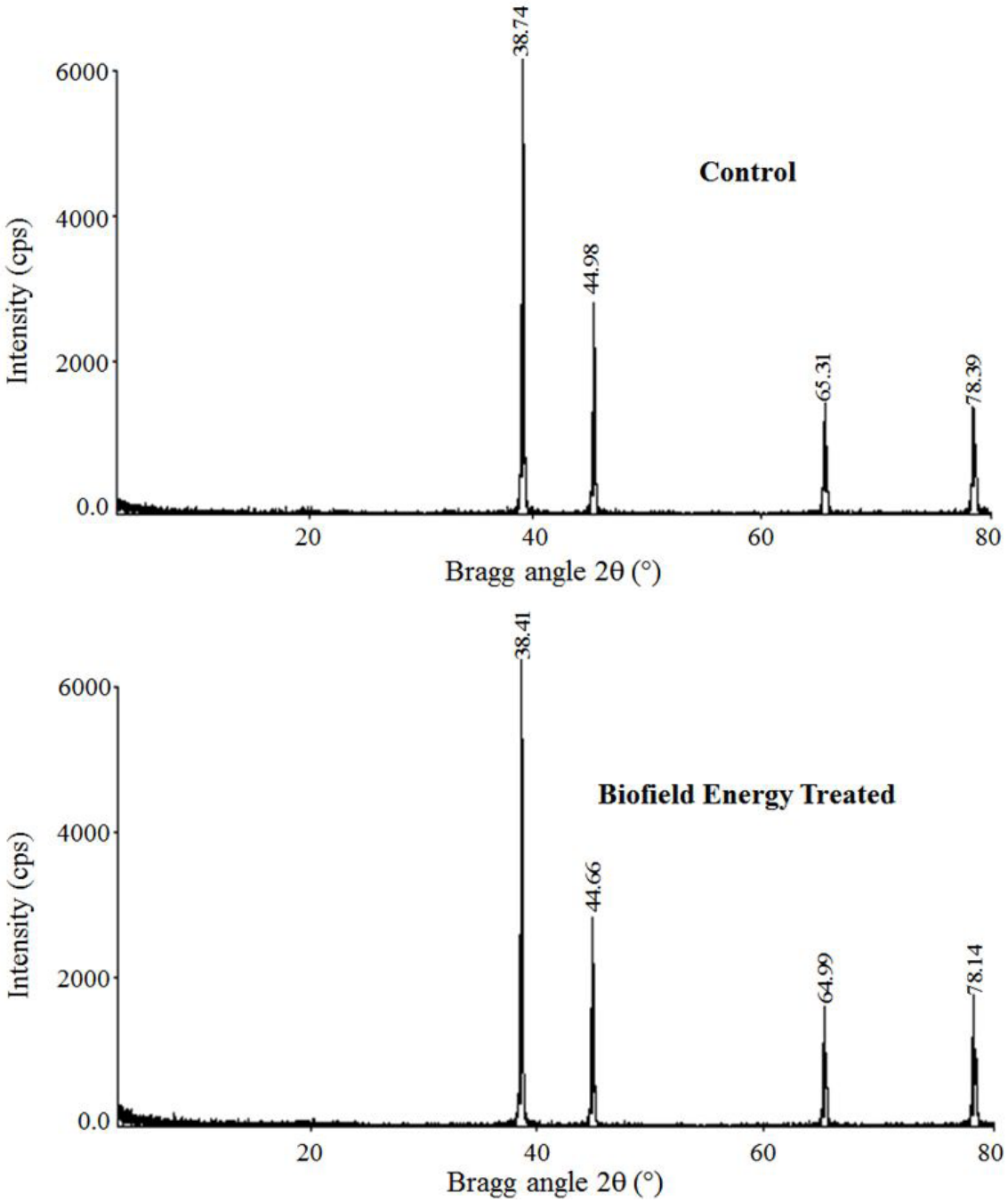

Figure 1: PXRD Diffractograms of the Control and Treated Aluminium Powder

Entry No.	Bragg angle (°2θ)		Peak intensity (%)			Crystallite size (G, nm)		
	Control	Treated	Control	Treated	% change	Control	Treated	% change
1	38.74	38.41	1005.00	996.00	-0.90	459.00	538.00	17.21
2	44.98	44.66	475.00	465.00	-2.11	472.00	479.00	1.48
3	65.31	64.99	288.00	306.00	6.25	509.00	665.00	30.65
4	78.39	78.14	312.00	362.00	16.03	545.00	574.00	5.32
5	Average crystallite size					496.25	564.00	13.65

Table 1: PXRD Data for the Control and Treated Aluminium Powder

The peak intensity of a crystalline compound changes according to the change in the crystal morphology, and alterations in the crystallite size provide the evidence of polymorphic transitions [36-38]. Thus, it was assumed that a new polymorphic form of aluminium might have produced after the Trivedi Effect®-Consciousness Energy Healing Treatment with the help of possible mediation of neutrino oscillation [13]. Different polymorphic forms of a crystal have the significant effects on the thermodynamic and physicochemical properties like melting point, energy, stability, and solubility, which are different from the original form [39,40]. Thus, the Biofield Energy Treated aluminium would show better physicochemical properties for designing novel pharmaceutical formulations and also for the other industrial applications.

Particle Size Analysis (PSA)

The particle size distribution analysis of both the powder sample was performed and the data are presented in Table 2. The particle size values in the Biofield Energy Treated aluminium were significantly decreased at d_{10}, d_{50}, d_{90}, and D (4,3) by 36.24%, 18.92%, 17.89%, and 20.28%, respectively compared to the control sample. Thus, the specific surface area (SSA) of the Biofield Energy Treated aluminium powder (0.366 m^2/g) was significantly increased by 41.31% compared with the control sample (0.259 m^2/g).

The PSD results indicated that the Trivedi Effect®-Consciousness Energy Healing Treatment might be acting like an exterior force for breaking the larger particles to the smaller particle in size, hence increased the surface area of aluminium powder compared to the control sample. Reducing the particle size of a compounds increase the surface area and improve the solubility, dissolution rate, and bioavailability [41]. Aluminium has a solubility issue in water [9]. Therefore, the Biofield Energy Treated aluminium would be better for designing better for cosmetics, paints, varnishes, pharmaceutical formulation and also for the other industrial applications [41].

Parameter	d_{10} (µm)	d_{50} (µm)	d_{90} (µm)	D(4,3) (µm)	SSA (m^2/g)
Control	11.21	33.91	95.61	47.95	0.259
Biofield Energy Treated	7.15	27.50	78.50	38.22	0.366
Percent change (%)	-36.24	-18.92	-17.89	-20.28	41.31

Table 2: Particle size Distribution of the Control and Treated Aluminium Powder
SSA: the specific surface area and d_{10}, d_{50}, and d_{90}: particle diameter corresponding to 10%, 50%, and 90% of the cumulative distribution, D (4,3): the average mass-volume diameter.

Conclusion

The influence of the Trivedi Effect®-Consciousness Energy Healing Treatment on the peak intensities, crystallite size, particle size, and surface area of aluminium powder was experimentally evaluated. The powder X-ray diffraction data exhibited that the peak intensities of the treated aluminium powder were significantly altered ranging from -2.11% to 16.03% compared to the control sample. Similarly, the crystallite sizes of the treated aluminium powder sample were significantly altered ranging from 1.48% to 30.65% compared to the control sample. Though, the average crystallite size of the treated powder sample was significantly increased by 13.65% compared with the control sample. The particle size values in the treated aluminium were significantly decreased by 36.24% (d_{10}), 18.92% (d_{50}), 17.89% (d_{90}), and 20.28% {D(4,3)} compared to the control sample. The specific surface area of the treated aluminium powder (0.366 m^2/g) was significantly increased by 41.31% compared with the control sample (0.259 m^2/g). The Trivedi Effect®-Consciousness Energy Healing Treatment might lead to generate a new polymorphic form of aluminium. The novel form of aluminium would improve the quality of pharmaceuticals, cosmetics, paper products, paints, varnishes, dental cement, glass, ceramics, waterproofing fabrics, etc. The Biofield Energy Treated aluminium would be useful for the aerospace industry, building industries (i.e., building facades and window frames), transportation industry (automobiles, trucks, marine vessels, railway cars, bicycles, etc.), packaging (cans, container, foil, etc.), household items (cooking utensils, watches, baseball bats, etc.), electrical transmission lines, paint, solid rocket fuel, explosive, etc.

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References

1. Madhukar P, Selvaraj N, Rao CSP (2016) Manufacturing of aluminium nano hybrid composites: A state of review. IOP Conf Ser: Mater Sci Eng 149: 012114.

2. Joseph RD (1993) Aluminum and Aluminum Alloys. ASM Int 1-5.

3. Susan S (1994) Packaging and the Environment: Alternatives, Trends and Solutions. CRC Press.

4. Rachel SMR (2004) WHO Model Formulary. World Health Org 1-644.

5. Emmett EA (1983) Occupational Skin Disease. J Allergy Clin Immunol 72: 649-56.

6. Mark GP (2007) Aluminum Hydroxide and Aluminum Carbonat in Saunders Handbook of Veterinary Drugs (2nd edn) St. Louis, Missori, USA, 15-16.

7. Brown HC (2004) Reductions by Lithium Aluminum Hydride. Org React 6: 469.

8. Witt M, Roesky HW (2000) Organoaluminum chemistry at the forefront of research and development. Curr Sci 78: 410.

9. Joel J, Xavior MA (2018) Aluminium alloy composites and its machinability studies; A review. 5: 13556-62.

10. Trivedi MK, Tallapragada RM, Branton A, Trivedi D, Nayak G, et al. (2015) Characterization of physical and structural properties of aluminium carbide powder: Impact of biofield treatment. J Aeronaut Aerospace Eng 4: 142.

11. Trivedi MK, Nayak G, Patil S, Tallapragada RM, Latiyal O, et al. (2015) Impact of biofield treatment on atomic and structural characteristics of barium titanate powder. Ind Eng Manage 4: 166.

12. Trivedi MK, Tallapragada RM, Branton A, Trivedi D, Nayak G, et al. (2015) Evaluation of atomic, physical, and thermal properties of bismuth oxide powder: An impact of biofield energy treatment. Am J Nano Res Appl 3: 94-8.

13. Trivedi MK, Mohan TRR (2016) Biofield energy signals, energy transmission and neutrinos. Am J Mod Phys 5: 172-6.

14. Rubik B, Muehsam D, Hammerschlag R, Jain S (2015) Biofield science and healing: history, terminology, and concepts. Glob Adv Health Med 4: 8-14.

15. Barnes PM, Bloom B, Nahin RL (2008) Complementary and alternative medicine use among adults and children: United States, 2007. Natl Health Stat Report 10: 1-23.

16. Koithan M (2009) Introducing complementary and alternative therapies. J Nurse Pract 5: 18-20.

17. Trivedi MK, Branton A, Trivedi D, Nayak G, Bairwa K, et al. (2015) Fourier Transform infrared and ultraviolet-visible spectroscopic characterization of ammonium acetate and ammonium chloride: An impact of biofield treatment. Mod Chem Appl 3: 163.

18. Trivedi MK, Branton A, Trivedi D, Nayak G, Bairwa K, et al. (2015) Physical, thermal and spectroscopical characterization of biofield treated triphenylmethane: An Impact of biofield treatment. J Chromatogr Sep Tech 6: 292.

19. Trivedi MK, Patil S, Nayak G, Jana S, Latiyal O (2015) Influence of biofield treatment on physical, structural and spectral properties of boron nitride. J Material Sci Eng 4: 181.

20. Trivedi MK, Nayak G, Patil S, Tallapragada RM, Latiyal O, et al. (2015) Studies of the atomic and crystalline characteristics of ceramic oxide nano powders after bio field treatment. Ind Eng Manage 4: 161.

21. Trivedi MK, Tallapragada RM , Branton A , Trivedi D, Nayak G, et al. (2015) Potential Impact of Biofield Treatment on Atomic and Physical Characteristics of Magnesium. Vitam Miner 3: 129.

22. Trivedi MK, Tallapragada RM , Branton A , Trivedi D, Nayak G, et al. (2015) Evaluation of biofield energy treatment on physical and thermal characteristics of selenium powder. J Food and Nutr Sci 3: 223-8.

23. Trivedi MK, Branton A, Trivedi D, Shettigar H, Bairwa K, et al. (2015) Fourier transform infrared and ultraviolet-visible spectroscopic characterization of biofield treated salicylic acid and sparfloxacin. Nat Prod Chem Res 3: 186.

24. Trivedi MK, Branton A, Trivedi D, Nayak G, Bairwa K, et al. (2015) Spectroscopic characterization of disulfiram and nicotinic acid after biofield treatment. J Anal Bioanal Tech 6: 265.

25. Trivedi MK, Patil S, Shettigar H, Mondal SC, Jana S (2015) The Potential Impact of Biofield Treatment on Human Brain Tumor Cells: A Time-Lapse Video Microscopy. J Integr Oncol 4: 141.

26. Trivedi MK, Patil S, Shettigar H, Gangwar M, Jana S (2015) In Vitro Evaluation of Biofield Treatment on Cancer Biomarkers Involved in Endometrial and Prostate Cancer Cell Lines. J Cancer Sci Ther 7: 253-7.

27. Trivedi MK, Patil S, Shettigar H, Mondal SC, Jana S (2015) An impact of biofield treatment: Antimycobacterial susceptibility potential using BACTEC 460/MGIT-TB system. Mycobact Dis 5: 189.

28. Trivedi MK, Branton A, Trivedi D, Nayak G, Mondal SC, et al. (2015) Antibiogram, biochemical reactions and biotyping of biofield treated providencia rettgeri. Am J Health Res 3: 344-51.

29. Trivedi MK, Branton A, Trivedi D, Nayak G, Mondal SC, et al. (2015) Evaluation of plant growth, yield and yield attributes of biofield energy treated mustard (*Brassica juncea*) and chick pea (*Cicer arietinum*) seeds. Agriculture, Forestry and Fisheries 4: 291-5.

30. Trivedi MK, Branton A, Trivedi D, Nayak G, Gangwar M, et al. (2015) Agronomic characteristics, growth analysis, and yield response of biofield treated mustard, cowpea, horse gram, and groundnuts. Int J Genet Genomics 3: 74-80.

31. Product Information (1997) Desktop X-ray Diffractometer "MiniFlex+". Rigaku J 14: 29-36.

32. Zhang T, Paluch K, Scalabrino G, Frankish N, Healy AM, et al. (2015) Molecular structure studies of (1S,2S)-2-benzyl-2,3-dihydro-2-(1Hinden-2-yl)-1H-inden-1-ol. J Mol Struct 1083: 286-99.

33. Langford JI, Wilson AJC (1978) Scherrer after sixty years: A survey and some new results in the determination of crystallite size. J Appl Cryst 11: 102-13.

34. Trivedi MK, Sethi KK, Panda P, Jana S (2017) A comprehensive physicochemical, thermal, and spectroscopic characterization of zinc (II) chloride using X-ray diffraction, particle size distribution, differential scanning calorimetry, thermogravimetric analysis/differential thermogravimetric analysis, ultraviolet-visible, and Fourier transform-infrared spectroscopy. Int J Pharm Invest 7: 33-40.

35. Trivedi MK, Sethi KK, Panda P, Jana S (2017) Physicochemical, thermal and spectroscopic characterization of sodium selenate using XRD, PSD, DSC, TGA/DTG, UV-vis, and FT-IR. Marmara Pharm J 21: 311-18.

36. Inoue M, Hirasawa I (2013) The relationship between crystal morphology and XRD peak intensity on CaSO4.2H2O. J Crystal Growth 380: 169-75.

37. Raza K, Kumar P, Ratan S, Malik R, Arora S (2014) Polymorphism: The phenomenon affecting the performance of drugs. SOJ Pharm Pharm Sci 1: 10.

38. Brittain HG (2009) Polymorphism in pharmaceutical solids in Drugs and Pharmaceutical Sciences (2nd Edn) Informa Healthcare USA, Inc., New York 192.

39. Censi R, Martino PD (2015) Polymorph Impact on the Bioavailability and Stability of Poorly Soluble Drugs. Molecules 20: 18759-76.

40. Blagden N, de Matas M, Gavan PT, York P (2007) Crystal engineering of active pharmaceutical ingredients to improve solubility and dissolution rates. Adv Drug Deliv Rev 59: 617-30.

41. Chereson R (2009) Bioavailability, bioequivalence, and drug selection. In: Makoid CM, Vuchetich PJ, Banakar UV (Eds) Basic pharmacokinetics (1st Edn) Pharmaceutical Press, London.