

## Consciousness Energy Healing Treatment and Its Effect on the Physicochemical and Thermal Properties of Aluminium Powder

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### ABSTRACT

Aluminium is the third most abundant metal of the earth's crust. Aluminium and its compounds have many applications in the pharmaceutical, cosmetic, metal, transportation and electrical industries. This study was performed to evaluate the impact of the Trivedi Effect<sup>®</sup> on the physicochemical and thermal properties of aluminium powder using sophisticated analytical techniques. The test sample aluminium powder was divided into two parts; one part of aluminium was considered as a control sample, while the second part received the Trivedi Effect<sup>®</sup>-Consciousness Energy Healing Treatment remotely by a well-known Biofield Energy Healer, Alice Branton and termed as a Biofield Energy Treated sample. The PXRD peak intensities and crystallite sizes of the treated aluminium were significantly altered ranging from -13.86% to 108.11% and -13.50% to 20.79%, respectively compared to the control aluminium. However, the average crystallite size of the treated aluminium was significantly increased by 5.49% compared with the control sample. The particle size values in the treated aluminium were significantly decreased by 6.44% ( $d_{10}$ ), 4.81% ( $d_{50}$ ), 12.42% ( $d_{90}$ ) and 10.14% {D (4,3)} compared to the control sample. Thus, the surface area of the treated aluminium powder (0.679 m<sup>2</sup>/g) was significantly increased by 5.6% compared with the control sample (0.643 m<sup>2</sup>/g). The total weight loss was significantly increased by 281.68%; whereas, the residual amount was significantly decreased by 5.81% in the treated aluminium compared with the control sample. The  $T_{max}$  of the 1<sup>st</sup> and 2<sup>nd</sup> peaks in the Biofield Energy Treated sample was significantly decreased by 5.45% and 14.35%, respectively, compared with the control sample. The results concluded that the Trivedi Effect<sup>®</sup>-Consciousness Energy Healing Treatment might lead to generate a new polymorphic form of aluminium which would improve the quality of many aluminium compounds in pharmaceuticals, cosmetics, paper products, paints, varnishes, dental cement, glass, ceramics, waterproofing fabrics, etc. The Consciousness Energy Healing Treated aluminium would also be useful for the aerospace industry, transportation industry (automobiles, trucks, railway cars, marine vessels, bicycles, etc.), building industries (i.e., building facades and window frames), packaging (cans, foil, container, etc.), household items (cooking utensils, baseball bats, watches, etc.), electrical transmission lines, paint, solid rocket fuel, explosives, etc.

**Keywords:** Aluminium, The Trivedi Effect<sup>®</sup>, Consciousness Energy Healing Treatment, PXRD, Particle size

### INTRODUCTION

Aluminium (Al) is the third most abundant metal (8%) of the earth's crust and remarkable for its low density and its ability to resist corrosion. Aluminium itself and its alloys are vital to the transportation industry (automobiles, railway cars, marine vessels, etc.), building industries (i.e., building facades and window frames), packaging (cans, foil, container, etc.), household items (cooking utensils, etc.), aerospace industry, electrical items, paint, explosive, solid rocket fuel, etc. [1-3]. Aluminium compounds have the applications, like aluminium acetate as an astringent; aluminium hydroxide as an antacid, water purifier, manufacture of glass and ceramics, and waterproofing fabrics; aluminium phosphate used for the production of

glass, ceramic, paper products, cosmetics, paints, varnishes, and dental cement; lithium aluminium hydride as a powerful reducing agent; organoaluminums used as Lewis acids,

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catalysts, etc. [1,4-8]. It is insoluble in water and organic solvents and soluble in dilute hydrochloric acid [9].

The physical and chemical properties of a substance play a crucial role in manufacturing and other industrial purposes. In this scenario, the Trivedi Effect®-Biofield Energy Healing Treatment has a significant impact on the physicochemical properties of many objects [10-12]. The Trivedi Effect® is a natural and only scientifically proven phenomenon in which an expert individual can harness this inherently intelligent energy and transmit it anywhere on the planet *via* the possible mediation of neutrinos [13]. The “Biofield” is a unique energy field that exists surrounding every living organism’s generated by continuous movement of the charged particles in the body. It is an infinite, para-dimensional electromagnetic field, which has been reported to have significant outcomes against various disease conditions [14]. The National Institutes of Health/National Center for Complementary and Alternative Medicine recommend and included energy therapy under the Complementary and Alternative Medicine category that has been accepted by most of the USA people with advantages [15,16]. Many scientific experiments have proved the impact of the Trivedi Effect®-Consciousness Energy Healing Treatment on the non-living and living object(s) [17-20]. The Trivedi Effect® was proved with significant outcomes in many fields, i.e., organic compounds, metals, ceramic, nutraceuticals, pharmaceuticals, cancer cells, microorganisms and agriculture. Thus, this study was designed to determine the impact of the Trivedi Effect® on the physicochemical and thermal properties of aluminium powder using modern analytical techniques [21-31].

## MATERIALS AND METHODS

### Chemicals and reagents

The aluminium powder was purchased from the Indian industry, Parshwamani Metals, Mumbai, Maharashtra. Remaining chemicals used during the experiments were purchased in India.

### Consciousness energy healing treatment strategies

The test sample aluminium powder was divided into two parts. One part of the powder sample did not receive the Biofield Energy Treatment was provided considered as a control sample. However, the second part of the powder sample was received the Trivedi Effect®-Energy of

Consciousness Healing Treatment remotely by the well-known Biofield Energy Healer, Alice Branton, USA, under standard laboratory conditions for 3 min and known as the treated sample. Further, the control sample was treated with a “sham” healer, who did not have any knowledge about the Biofield Energy Treatment. After that, the Biofield Energy Treated and untreated samples were kept in sealed conditions and characterized using sophisticated analytical techniques.

### Characterization

The powder X-ray diffraction (PXRD) analysis of aluminium powder sample was carried out with the help of the Rigaku MiniFlex-II Desktop X-ray diffractometer (Japan) [31,32]. The crystallites size was calculated from PXRD data using the Scherrer’s formula (1):

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

Where,  $G$ =crystallite size (nm),  $k$ =equipment constant,  $\lambda$ =radiation wavelength,  $\beta$ =full-width at half maximum, and  $\theta$ =Bragg angle [33].

The particle size distribution (PSD) analysis of powder samples was performed with the help of Malvern Mastersizer 2000 (UK) using the wet method [34,35]. Similarly, the thermal gravimetric analysis (TGA) thermograms of aluminium powder were obtained with the help of TGA Q50 TA instruments [36-42].

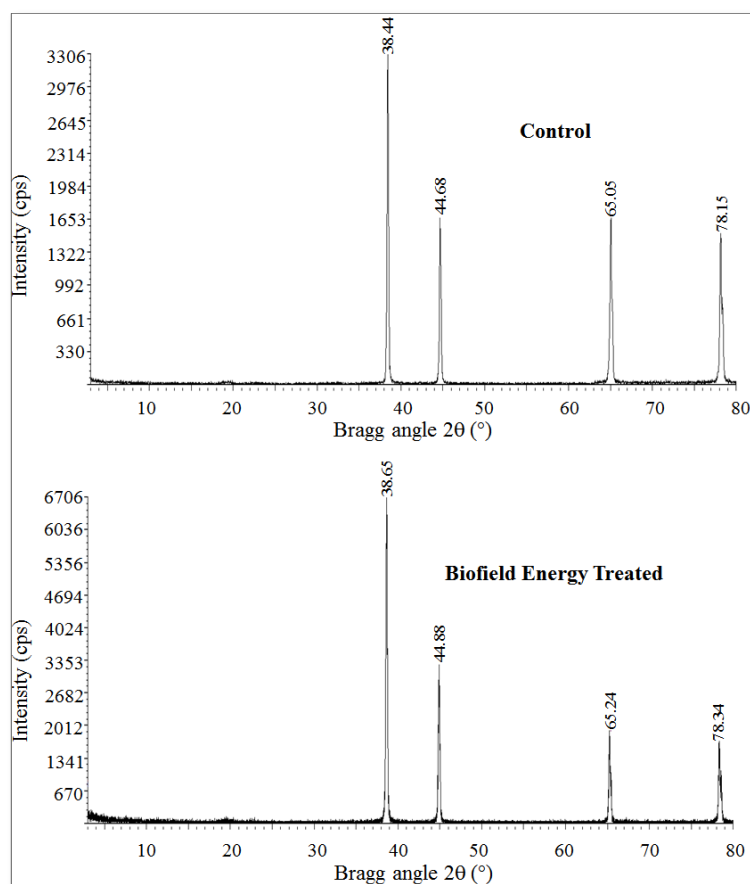
The % change in the treated sample was calculated compared with the control sample using the following equation 2:

$$\% \text{ Change} = \frac{[\text{Treated} - \text{Control}]}{\text{Control}} \times 100 \quad (2)$$

## RESULTS AND DISCUSSION

### Powder X-ray diffraction (PXRD) analysis

The PXRD diffractograms of both the samples were showed sharp and intense peaks (**Figure 1**) indicated that both the samples were crystalline. The PXRD diffractograms of both the samples showed the highest peak intensity at  $2\theta$  equal to  $38.7^\circ$  (**Table 1**, entry 1). Overall the peak intensities of the Biofield Energy Treated aluminium were significantly altered ranging from -13.86% to 108.11% compared to the control sample (**Table 1**, entry 1-4).



**Figure 1.** PXRD diffractograms of the control and treated aluminium.

**Table 1.** PXRD data for the control and treated aluminium.

| Entry No. | Bragg angle ( $^{\circ}2\theta$ ) |         | Peak Intensity (%) |         |            | Crystallite size (G, nm) |         |            |
|-----------|-----------------------------------|---------|--------------------|---------|------------|--------------------------|---------|------------|
|           | Control                           | Treated | Control            | Treated | % Change * | Control                  | Treated | % Change * |
| 1         | 38.44                             | 38.65   | 518.00             | 1078.00 | 108.11     | 538.00                   | 474.00  | -13.50     |
| 2         | 44.68                             | 44.88   | 270.00             | 513.00  | 90.00      | 505.00                   | 499.00  | -1.20      |
| 3         | 65.05                             | 65.24   | 368.00             | 317.00  | -13.86     | 461.00                   | 582.00  | 20.79      |
| 4         | 78.15                             | 78.34   | 362.00             | 349.00  | -3.59      | 527.00                   | 594.00  | 11.28      |
| 5         | Average crystallite size          |         |                    |         |            | 507.75                   | 537.25  | 5.49       |

\* denotes the % change in the peak intensity and crystallite size of the treated sample with respect to the control sample

The crystallite sizes of the treated aluminium at  $2\theta$  equal to  $38.7^{\circ}$  and  $44.9^{\circ}$  (Table 1, entry 1 and 2), was significantly decreased by 13.5% and 1.2%, respectively compared with the control sample. However, the crystallite sizes of the Biofield Energy Treated aluminium at  $2\theta$  equal to  $65.2^{\circ}$  and  $78.3^{\circ}$  (Table 1, entry 3 and 4) were significantly increased by 20.79% and 11.28% with respect to the control sample. Therefore, the crystallite sizes of the treated aluminium were significantly altered ranging from -13.50% to 20.79%

compared to the control sample. However, the average crystallite size of the treated aluminium was significantly increased by 5.49% compared with the control sample. The variations in the crystallite sizes and peak intensities significantly alter the crystal morphology of the sample. The peak intensity of each diffraction face on the crystalline compound changes according to the crystal morphology [36] and alterations in the PXRD pattern provide the proof of polymorphic transitions [37,38]. Therefore, it was assumed that a new polymorphic form of aluminium might have

produced due to Trivedi Effect®-Consciousness Energy Healing Treatment *via* the mediation of neutrino oscillation [13]. Different polymorphic forms of a crystal have significant effects on the thermodynamic and physicochemical properties like melting point, energy, stability, and especially solubility, which are different from the original form [39,40]. Thus, it can be assumed that the Consciousness Energy Healing Treated aluminium would be better for designing novel pharmaceutical formulations and also for the other industrial applications.

### Particle size analysis (PSA)

The particle size distribution analysis of both the control and Biofield Energy Treated aluminium powder 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 6.44%,

4.81%, 12.42%, and 10.14%, respectively compared to the control sample. Therefore, the SSA of Biofield Energy Treated aluminium powder ( $0.679 \text{ m}^2/\text{g}$ ) was significantly increased by 5.6% compared with the control sample ( $0.643 \text{ m}^2/\text{g}$ ). As per the results, it was assumed that the Trivedi Effect®-Consciousness Energy Healing Treatment might be acting as an external force for decreasing the particle size and hence increased the surface area of aluminium powder compared to the control sample. Reducing the particle size of pharmaceutical compounds increase the surface area and improve the solubility, dissolution rate, and bioavailability in the physiological system [41]. As aluminium has the solubility issue in water [9]. Thus, the Trivedi Effect® Treated aluminium would be better for designing better for cosmetics, paints, varnishes, pharmaceutical formulations, and also for the other industrial applications.

**Table 2.** Particle size distribution of the control and treated aluminium.

| Parameters          | $d_{10} (\mu\text{m})$ | $d_{50} (\mu\text{m})$ | $d_{90} (\mu\text{m})$ | $D(4,3) (\mu\text{m})$ | SSA ( $\text{m}^2/\text{g}$ ) |
|---------------------|------------------------|------------------------|------------------------|------------------------|-------------------------------|
| Control             | 3.88                   | 16.71                  | 71.99                  | 28.66                  | 0.643                         |
| Biofield Treated    | 3.63                   | 15.90                  | 63.05                  | 25.75                  | 0.679                         |
| Percent change* (%) | -6.44                  | -4.81                  | -12.42                 | -10.14                 | 5.60                          |

$d_{10}$ ,  $d_{50}$  and  $d_{90}$ : particle diameter corresponding to 10%, 50%, and 90% of the cumulative distribution,  $D(4,3)$ : the average mass-volume diameter

SSA: Specific Surface Area

\*denotes the % change in the particle size and surface area of the treated sample with respect to the control sample

### Thermal gravimetric analysis (TGA)/differential thermogravimetric analysis (DTG)

The TGA thermograms of the control and Biofield Energy Treated samples showed one step of thermal degradation (**Figure 2**). The total weight loss in Biofield Energy Treated

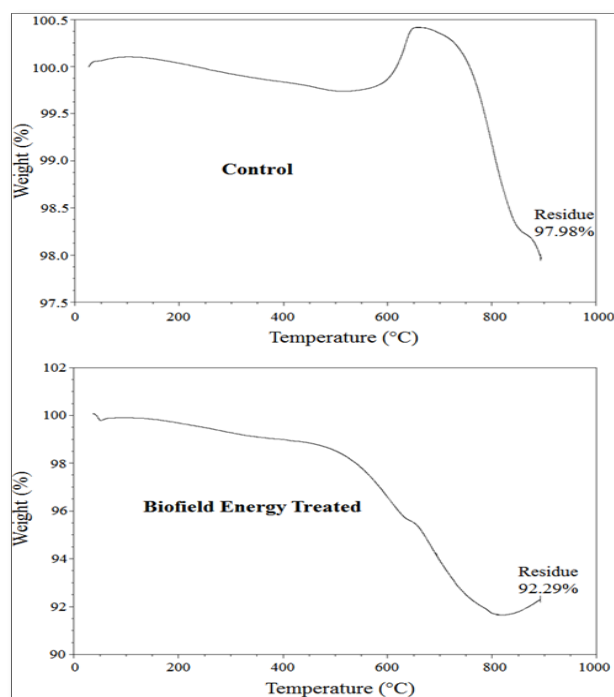
aluminium was significantly increased by 281.68% compared with the control sample (**Table 3**). Therefore, the residue amount was significantly decreased by 5.81% in the Biofield Energy Treated aluminium compared to the control sample (**Table 3**).

**Table 3.** TGA/DTG data of the control and treated samples of aluminium.

| Sample                  | TGA                   |           | DTG; $T_{\text{max}}$ ( $^{\circ}\text{C}$ ) |                      |
|-------------------------|-----------------------|-----------|----------------------------------------------|----------------------|
|                         | Total weight loss (%) | Residue % | 1 <sup>st</sup> Peak                         | 2 <sup>nd</sup> Peak |
| Control                 | 2.02                  | 97.98     | 627.46                                       | 798.42               |
| Biofield Energy Treated | 7.71                  | 92.29     | 593.29                                       | 683.88               |
| % Change*               | 281.68                | -5.81     | -5.45                                        | -14.35               |

\*denotes the % change of the treated sample with respect to the control sample

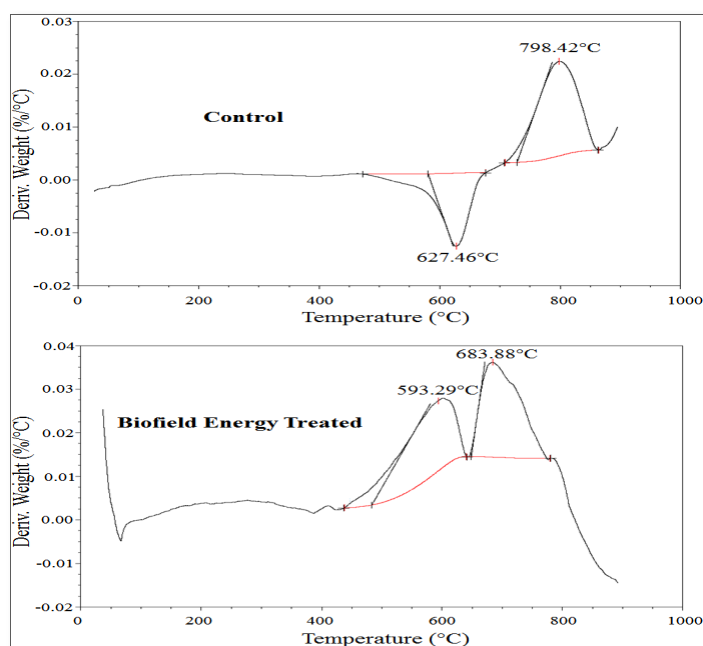
$T_{\text{max}}$ =Temperature at which maximum weight loss takes place in TG or peak temperature in DTG



**Figure 2.** TGA thermograms of the control and treated aluminium.

The DTG thermogram of the control and Biofield Energy Treated aluminium sample exhibited two peaks (**Figure 3**). The nature of the 1<sup>st</sup> peak in the Biofield Energy Treated aluminium was entirely opposite compared to the control sample (**Figure 3**). The maximum thermal degradation temperature ( $T_{max}$ ) of the 1<sup>st</sup> and 2<sup>nd</sup> peaks in the Biofield Energy Treated sample was significantly decreased by

5.45% and 14.35%, respectively compared with the control sample (**Table 3**). Overall, TGA/DTG revealed that the thermal stability of the Biofield Energy Treated aluminium was significantly decreased compared with the control sample. This lowering in the thermal stability would be useful for the industrial applications which need to perform in the lower temperature.



**Figure 3.** DTG thermograms of the control and treated aluminium.

## CONCLUSION

The Trivedi Effect®-Consciousness Energy Healing Treatment showed a significant effect on the peak intensities, crystallite size, particle size, surface area, and thermal properties of aluminium powder. The PXRD peak intensities of the Biofield Energy Treated aluminium were significantly altered ranging from -13.86% to 108.11% compared to the control sample. Similarly, the crystallite sizes of the treated sample were significantly altered ranging from -13.50% to 20.79% compared to the control sample. However, the average crystallite size of the Biofield Energy Treated sample was significantly increased by 5.49% compared with the control sample. The particle size values in the Biofield Energy Treated aluminium were significantly decreased by 6.44% ( $d_{10}$ ), 4.81% ( $d_{50}$ ), 12.42% ( $d_{90}$ ) and 10.14% {D (4,3)} compared to the control sample. Therefore, the surface area of the Biofield Energy Treated aluminium powder was significantly increased by 5.6% compared with the control sample. The total weight loss was significantly increased by 281.68%; whereas, the residual amount was significantly decreased by 5.81% in the Biofield Energy Treated aluminium compared with the control sample. The  $T_{max}$  of the 1<sup>st</sup> and 2<sup>nd</sup> peaks in the Biofield Energy Treated sample was significantly decreased by 5.45% and 14.35%, respectively compared with the control sample. The results concluded that the Trivedi Effect®-Consciousness Energy Healing Treatment might lead to generate a new polymorphic form of aluminium which would improve the of many aluminium compounds in pharmaceuticals, cosmetics, paper products, paints, varnishes, dental cement, glass, ceramics, waterproofing fabrics, etc. The Consciousness Energy Healing Treated aluminium would also be useful for the aerospace industry, transportation industry, building materials, packaging materials, household utensils, electrical transmission lines, paint, solid rocket fuel, explosives, etc.

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