Proprietary Glycerin-Based Processing Technologies

(Multi-Dynamic (aka TincTract®), Pureodine™, and BTC™ Vibrational Technologies)

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Multi-Dynamic Process (aka TincTract® Process): Liquid Herbs International™ (LHI), the private label/bulk ingredient sales department of Cedar Bear Naturales®, multi-condition-based Multi-Dynamic Process for botanical extractions is a technology-driven, serialized, multi-step, multi-dynamic glycerin-based liquid herbal manufacturing endeavor aimed at broad-spectrum constituent extraction potential. It was first conceived, modeled, and developed in 1982 and has undergone numerous generational advances, enhancements, and refinements, now in its 12th generation. Those generational advances have included upgrades to equipment (many of which are customized and/or repurposed), implements, processes and procedures, and additional technological advances. In fact, the 12th-generation process differs greatly from the 1st-generation process, though it still retains the four-fold metaphoric alchemy premise it is modeled upon.

The manufacturer of Multi-Dynamic processed products is FDA-registered and cGMP-audited; the facility and operations are NSF GMP certified; they are also Kosher certified, Halal certified, and Vegan certified. The manufacturer is also eco-friendly, carbon-neutral, and zero-waste-oriented, and received the UMA *Environmental Stewardship* Award for 2025.

First, understand that this kind of liquid processing of botanicals had never been done before in herbalism or commercial herbal product manufacturing. In fact, the Multi-Dynamic process was the first time glycerin was seriously considered and used as a solvent in place of alcohol as the preferred extractive solvent/medium for broad-spectrum extraction of botanicals.

This reason for this shift from alcohol to glycerin as the preferred solvent was driven by both processing and chemistry considerations. The processing aspect concerned alcohol's limited versatility as an extractive solvent. It is highly volatile, with a low volatility index, meaning it will vaporize and ignite at a much lower temperature than glycerin, making it unsuitable for the tiered, multi-dynamic steps used in the multi-condition-based Multi-Dynamic process. Glycerin, by contrast, is more stable and versatile as an extractive solvent because its higher volatility index means it vaporizes/dissociates at a substantially higher temperature than alcohol, and even water, making it a more efficient and versatile extractive solvent when a multi-condition-based dynamic aspect of processing is involved. The key to using glycerin versus alcohol lies in how glycerin is used and handled, making it a preferred solvent for broader-spectrum constituent extraction than alcohol.

Not choosing to work with alcohol, because of its processing limitations, was also underscored by other chemistry-related issues. Alcohol possesses intrinsic effects on many constituents and biological actives, many of which are derived from botanicals. They include denaturing, inert-rendering, and oxidative-driving effects. A fundamental principle of chemistry is that if an alteration or change of something takes place, then the outcome relative to that something's activity or inclusion in a process will concurrently change. In other words, certain botanical constituents that have been subjected to the denaturing, inert-rendering, or oxidative-driving effects of alcohol will

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have their sought-after actions, in this instance, therapeutic or nutritive potential and/or effects, altered, diminished, or staunched altogether. This fundamental principle of chemistry also applies to biochemistry. This was a major reason the developer dispensed with alcohol in developing the Multi-Dynamic process and used glycerin instead, which has no denaturing, inert-rendering, or oxidative-driving effects on botanical constituents.

However, it should not be assumed that the author is saying that alcohol-based botanical preparations, because they are subjected to the denaturing and inert-rendering effects of alcohol, do not work. That would not be true, because they do work. The point is that the degree of efficacy, chemically speaking, would be, and is at least diminished, sometimes greatly diminished, from what would otherwise be the case if such botanical constituents were not subjected to the denaturing and inert-rendering effects of alcohol. That is the point that should not be lost regarding this chemistry-based information.

The Multi-Dynamic process is LHI's private-label/bulk-ingredient name for the TincTract® process. TincTract® is a contraction of the words TINCture and exTRACT because it combines the best of both approaches into a single process, without the downsides of either.

To better understand the uniqueness of the Multi-Dynamic (i.e., TincTract®) process and what differentiates it from other liquid herbal processes, whether alcohol- or glycerin-based, it is best described as a multi-condition-based, serialized, multi-step, multi-dynamic process, as this term captures its essence.

The multi-condition aspect is the opposite of a mono-condition aspect. Multi-condition simply means subjecting something to multiple conditions, like a fine art painting's canvas is subjected to multiple layers and colors of paint to produce the finished painting. That's a multi-condition process, as opposed to a wall being painted with a single layer and color to produce a finished painted wall, which is a mono-condition process. Passive, cold-based, tincturing, macerating, or percolating botanical extractions are, because of alcohol's limited versatility, considered mono-condition-based processes, whereas the multi-step, multi-dynamic broad-spectrum extractions are, because of glycerin's greater versatility, considered multi-condition-based processes, thus potentially yielding a broader-spectrum outcome.

The serialized aspect, a valid principle in chemistry, involves a sequential extraction process in which the botanical material is exposed to different unsaturated solvent layers in a specifically defined order, with each successive stage building on and capturing constituents left by the preceding stage. It is not a 'saturate-based' approach, which is the opposite of a serialized concept. One of the main advantages of a serialized approach is that it uses less raw botanical material while achieving matching or greater broad-spectrum extractive potential and accompanying synergies. Using less raw botanical material makes the Multi-Dynamic process more eco-friendly, carbon-neutral, and zero-waste-oriented than typical saturate-based processes, while delivering similar or greater broad-spectrum constituent potential in a finished product.

The multi-step aspect means the liquid-based extract in a Multi-Dynamic process occurs through multiple defined stages, with each step performing a specific function in the overall process. Because

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of this multi-step aspect, a Multi-Dynamic process is not limited to a mono-condition-based tincture/macerate/percolate tincturing process or a mono-condition-based cooking (i.e., decoction) approach; it involves multiple steps that incorporate specific poly inputs to achieve specific outcomes.

The multi-dynamic aspect uses multiple extraction-dynamic gradients sequentially to progressively enhance extraction dynamics, yielding a broader spectrum of botanical constituents than a mono-condition-based cold/passive process or a cooking/decocting process alone. Put another way, multi-dynamic progressively increases the extractive dynamics of the Multi-Dynamic process to gain greater extractive potential and obtain a broader spectrum of constituents from an extracted botanical.

Having all four of these aspects of the Multi-Dynamic process- multi-condition, serialized, multi-step, and multi-dynamic- combined into one processing technology substantially increases the extraction potential for obtaining a broader spectrum of constituents from a botanical than would be seen with other extractive methodologies, especially mono-condition-based ones.

Another generational-based technological advance to the Multi-Dynamic process was the inclusion of a ***Molecular Energy Induction Modulating Harmonizer*** (MEIMH™) for amplifying naturally occurring dielectric synergies of the solution mix for enhancing extraction potentials and increasing product stability, evidenced by the stronger, more concentrated, potent, and increased stability of Multi-Dynamic processed liquid herbal products than of earlier generation Multi-Dynamic processed preparations, evidenced by the 1st generation's effective dosing of one teaspoonful per dose, that is now at a 12th generation effective dose of 1/4 teaspoon per dose (1/8 teaspoon for children). Like the Multi-Dynamic process itself, the MWIMH™ is a patentable technology, but we decided to keep it proprietary.

As alluded to earlier, the Multi-Dynamic process is also rooted in alchemical principles and practices that involve a four-fold, element-based metaphorical alchemical model. This four-fold, element-based model formed the basis for modeling the Multi-Dynamic process, contributing to its multi-condition-based serialized, multi-step, and multi-dynamic aspects.

And no, the Multi-Dynamic process is not based on, or a variation of, a Spagyric process, which is a three-fold, element-based, alcohol-based passive tincturing methodology that ashes its herbal marc (i.e., the spent raw material waste), thereby negatively contributing to the atmospheric carbon footprint, which the Multi-Dynamic process does not do, as it sends its spent raw material waste to a garden farm to be composted, which in turn positively adds to the soil's carbon bank. The Multi-Dynamic process was conceived, modeled, and developed well before the conceptualizer and developer learned of Spagyric herbal tincture making.

The Multi-Dynamic (i.e., TincTract®) process was first conceived, modeled, and developed by L. Carl Robinson, MH, FH, TT, CCHt, RH(AHG), a clinical & formulary herbalist and CAM practitioner of 50+ years. It was developed 45 years ago, in 1982, and is the first of its kind liquid herbal product-making approach and its resulting products in the industry; hence, it is the most well-proven, with generational advances and refinements. This unique and original processing technology

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has become the industry standard against which all other totally alcohol-free glycerin-based processes and their products are compared, and the Multi-Dynamic process remains the front-runner, offering the highest-quality, potent, efficacious, and good-tasting herbal glycerite concentrates available.

Pureodine™ Process: The Pureodine™ process is another technology-driven process for making a unique and original glycerite of mono-element-based diiodine-molecular (I_2) iodine, commonly but incorrectly referred to as 'nascent' iodine.

LHI sales offers this product as a white-label finished 1 oz/30 ml actinic amber-colored dropper bottle containing .9% iodine (by weight) for nutritional supplement use.

The Pureodine™ process is an industry first for a glycerite of mono-element-based molecular iodine (I_2). It had never been done before, and in fact, many detractors in the 'nascent' iodine industry, which is primarily alcohol-based products, claimed that what the Pureodine™ process was doing with glycerin as the solvent was not possible to do, even claiming that glycerin and elemental iodine are not compatible, which, from a well-studied chemistry perspective, reaching back to the 1930s/40s, is not true; in fact, elemental iodine and glycerin have a well-established chemical affinity for each other. The lead developer of the Pureodine™ process was already well aware of this latter aspect, as it was a determining factor in using glycerin as the solvent for making a Pureodine™-processed molecular iodine product.

In addition to efficiently dissolving and suspending USP-grade anhydrous elemental iodine crystals in the glycerin solution, without other minerals such as potassium, sodium, or calcium, the developers aimed to create a gentler, more gastric-compatible, and more stable product than similar molecular iodine supplements on the market. This required using highly specialized lab equipment, some customized and repurposed, along with highly focused, sensitive processing protocols to bring the Pureodine™ process to fruition.

It all came together with a small development team, led by L. Carl Robinson, MH, FH, TT, CCHt, RH(AHG), who had already developed the Multi-Dynamic (aka TincTract®) process and understood glycerin fluid chemistry-based extractions, with two other team members, one of whom possessed systems engineering theoretical insights, and the other with a background in Navy nuclear & electrical technologies, who together developed the totally alchohol-free Pureodine™ process for making stabilized molecular iodine solutions.

In 2007, the Pureodine™ process came to fruition. Since then, the Pureodine™ process has undergone generational enhancements and refinements and is now in its 8th generation.

A generational Pureodine™ process enhancement involved developing and including an **Integrated Hydrodynamic Molecular Vortex Agitation System** (IHMVAS™) accelerator into the process, which transforms the solution's solvate state and stabilizes the finished solution. The earlier generations of the Pureodine™ process established the uniqueness and originality of its molecular iodine products. However, the later-generation inclusion of the IHMVAS™ accelerator in the

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Pureodine™ process substantially enhanced the dissolution and solvate formation of elemental iodine with glycerin, and increased the dielectric potential and stability of the finished molecular iodine product, establishing it as the industry's standard for a totally alcohol-free glycerite of molecular iodine.

That transformative effect spoken of is not one of structural transformation (aka chemical modification) of the elemental/molecular (I_2) iodine itself. Rather, it is about strengthening the protective solvent caging effect of glycerin on the molecular (I_2) iodine, dynamically modulating the intermolecular hydrogen-bonding and molecular organization of the glycerin solvent, and increasing dielectric potentials of the solvate, which enhances molecular-level mixing, shearing, and dissolving of the solution's components into a more homogeneous state, and enhances the solution's solute (elemental iodine) and solvent (glycerin) interaction and stability.

Said enhanced stability is due to a more homogeneous state of the solvate solute, which, from a stability perspective, theoretically results in greater reduction of iodine's vapor pressure (i.e., proclivity to becoming an outward-expanding escaping gas, which is an intrinsic attribute of elemental/molecular (I_2) iodine), thus reducing molecular liberation of the molecular (I_2) iodine from the finished solution; hence, increased stability of the solvate solute of molecular iodine.

The Pureodine™ process and inclusion of its Integrated Hydrodynamic Molecular Vortex Agitation System (IHMVAS™) accelerator for making a glycerite of molecular iodine (I_2) are industry- and marketplace-firsts for a glycerin-based liquid molecular iodine. It's original and exclusive to the manufacturer of Pureodine™ made molecular iodine. The Pureodine™ process and its IHMVAS™ accelerator are also patentable, but we decided to keep these developments as proprietary technologies.

BTC™ (Biologically Targeted Coherent) Technology: The BTC™ is a vibration-based technology that utilizes a homeopathic-type dynamizing approach to create unique glycerite energetic blanks that hold highly complex vibrational energy imprints, and a proprietary vibrational imprinting/programming technology to imprint complex vibrational formula signatures into the BTC™ energetic blanks.

The BTC™ technology was developed by L. Carl Robinson, MH, FH, TT, CCHt, RH(AHG), a clinical & formulary herbalist and CAM practitioner, whose phytotherapy degree curriculum also included homeopathic principles & practices as they related specifically to botanicals. After developing the Multi-Dynamic (aka TincTract®) process, Carl later developed a completely alcohol-free approach to flower essences and vibrational remedies, largely based on his hypothesis that plants have vibrational aspects that manifest as subtle quaternary constituents in botanicals. Building on this insight, he first developed a fortified glycerin-based energetic blank containing a specially prepared, laser-activated, stabilized complex trace-mineral matrix in enhanced glycerin and multi-stage-purified, catalytically conditioned water. By 'blank,' it means a solution that contains no energy imprint or signature – it's a blank!

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From there, he furthered the BTC™ vibrational technology by developing a proprietary approach to vibrationally imprinting the BTC™ energetic blanks with highly complex formula blends of flower essences and/or vibrational signatures. Developing a totally alcohol-free, highly stable, glycerin-based imprintable solution and imprinting complex energetic signature formulas of flower essences and/or vibrational signatures were marketplace firsts that had never been done in the industry or marketplace. Today, the totally alcohol-free approach to making flower essence and vibrational glycerite products is widely imitated in the industry, but it still doesn't have the premium qualities and astounding stability of the original proprietary BTC™ technology.

As for what is happening with vibrational energy technologies, the jury is still out on what it is or isn't. One thing is clear: from an evidentiary, observational basis, something IS happening with vibrational technologies. Homeopathy, part of the vibrational family, has a plethora of 'provings' for its remedies, which the US FDA now recognizes as its own class of OTC remedies. Even so, the supposed reasons for how homeopathy and its cousin vibrational technologies work remain hypothetical. While provings and/or evidentiary observations exist for using such preparations, postulates as to how these remedies work are hypothetical, not scientific fact per se.' In the realm of vibrational energy-based products and devices, scalar energy theory, Orgone energy theory, Tesla resonance theory, and others are postulated as explanations of how the energetic aspect of vibrational techniques works. Fact is, in the classical sense, none of it is scientific – it's all hypothetical and suppositional. However, the fact that something is not scientifically proven in the classical sense, from an evidentiary observational perspective, should not be discounted outright, but it should not also take the arbitrary stance that somehow it's 'scientific' because it appears to work, albeit typically on a highly subjective level, which itself means it is not objectively scientific, but still plausible all the same, and therefore to be considered a usable option.

The history of proving the BTC™ energetic blanks as stable, imprintable solutions happened when an international sales representative for a unique bio-vibrational electronic diagnostic device that was, at the time, cleared as an experimental homeopathic-based device in Europe, Australia, and Canada, and later cleared as a non-medical experimental device in the United States, had by then sold hundreds of units throughout Europe, Australia, and North America. This sales rep heard from one of the device's owners about the BTC™ energetic blanks and flew in from Eastern Europe to meet the manufacturer in person.

A large test order was placed for the BTC™ energetic blanks, which the sales rep then distributed to various client-customers for proof testing, using the bio-vibrational electronic diagnostic devices that also doubled as programmable homeopathic/dynamizing imprinters for the BTC™ energetic blanks. These testers had previously used straight water and/or alcohol-containing unimprinted solutions and found that the biggest shortcomings of their imprinted solutions were that the imprint-holding duration and stability were less than desired, and that the imprinted signature was very susceptible to being knocked out by a number of physical and environmental factors.

The initial feedback from Australia and Europe, and later from Canada and the United States, was exceptionally positive. Device operators found the imprinted energetic blanks astoundingly stable against both physical and environmental factors, and when they increased the complexity of their

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homeopathically based formulas, they found more consistent results at certain levels than they had previously experienced with alcohol- and/or water-containing solutions. For a time, the manufacturer sold thousands of units of the BTC™ energetic blanks worldwide.

In other words, the BTC™ energetic blanks and their ability to be imprinted with exceptionally complex flower essence and/or vibrational signatures, along with the stability of the unique solution, had, in homeopathic nomenclature, been proven! By proven, it is meant to imply that the ability to hold a highly complex vibrational imprint and to possess stability previously unseen with alcohol- and/or water-containing solutions occurred when BTC™ energetic blanks were used to imprint flower essence and/or vibrational formula-based signatures.

Undoubtedly, this unprecedented stability for a BTC™ energetic blank is due to glycerin's greater crystalline matrix structure, which is further BTC™ enhanced with the inclusion of a proprietary trace mineral complex that enhances glycerin's intrinsic crystalline matrix structure by increasing the solution's imprint-holding capacity, with the laser treatment further enhancing the fluid structure and its stability to hold highly complex formula blend imprints – substantially expanding imprint complexity, its holding capacity, and stability of the energetic blanks.

Since the BTC™ technology was developed, and with its proprietary energetic blank technology and proprietary imprinting of complex flower essence and/or vibrational formula signatures, numerous private-label accounts/customers have procured and marketed these products under their own brand, totaling tens of thousands of units. Private label BTC™ vibrational products for uses such as weight control, energy boosting, and crisis/stress control are among the many successful applications for which these vibrational products are made. While others have imitated the BTC™ technology's totally alcohol-free, glycerin-based approach to making flower essences and/or vibrational products, they lack the added uniqueness and quality boost of BTC™-made products.

In closing on the BTC™ technology, one innovative approach is imprinting BTC™ vibrational signatures as an ancillary vibrational addition to Multi-Dynamic-processed liquid herbal products, either with the Multi-Dynamic-made liquid herbs as the primary emphasis or with the BTC™ vibrational signature products as the primary emphasis. The possibilities are endless.

[L. Carl Robinson, MH, FH, TT, CCHt, RH(AHG), is a clinical & formulary herbalist and a CAM practitioner of 45+ years, who is a Registered Herbalist with the American Herbalists Guild (AHG), serves on numerous steering committees of the American Herbal Products Association (AHPA), and is a member of the American Chemical Society (AHC). He developed innovative proprietary alcohol-free herbal/dietary supplement processing technologies and is considered an SME in glycerin fluid chemistry and its use in broad-spectrum botanical extraction processes. Carl is founder and Chairman/CEO of Cedar Bear Naturales®]

Liquid Herbs International™ is the private label/bulk ingredient sales department of Cedar Bear®

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