

Annex A - Discussion paper on novel formulations of supplement compounds designed to increase oral bioavailability

# Market data and projected trends

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67. A preliminary analysis was conducted on liposomal supplements available on the internet to gather data about the active ingredients formulated in this way and their relative distribution. The search term “liposomal supplements” returned 649 products from a popular online marketplace. The active ingredients of the first 105 of these supplements were listed.

68. This analysis excluded supplements containing >1 active ingredient (e.g., vitamin D3 + vitamin K2). Moreover, some supplements were duplicated in the search results, and may therefore be relatively overrepresented in the analysis. However, vitamin C was overwhelmingly the most common supplement available in a 'liposomal' form. Other important supplements included glutathione, vitamin D3, and vitamin B complex. Table 3 provides a summary of the products available and the number of each product.

69. Table 3. Distribution of liposomal supplement products available from an online retailer from first 105 results.

<b>Active ingredient</b>	<b>Number of products</b>
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Vitamin C	54
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Vitamin B	11
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Glutathione	10
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NAD+	8
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Vitamin D3	6
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NMN	5
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Multivitamin	3
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MTHF	2
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Nicotinamide riboside	1
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Apigenin	1
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Magnesium	1
Carnosine	1
Zinc	1
Vitamin K2	1
Total	105

70. NAD+: Nicotinamide adenine dinucleotide; NMN: Nicotinamide mononucleotide; MTHF: Methyltetrahydrofolate.

71. A search for “nanoencapsulated supplements” returned no products from the online retailer whilst “micellar supplements” primarily returned micellar casein supplements and a few turmeric/curcuminoid preparations. The limitations of performing an approximate market analysis in this way is due to differences in nomenclature and marketing styles.

72. These analyses, therefore, are uncertain. However, more sophisticated market data is available on the market trends for novel supplement formulations. To access this information a report would need to be purchased from a market research company.

73. Three reports have been identified which may be of use in the current assessment. Two contain information about novel formulations across the supplement market, whilst the other contains information specific to the curcumin/turmeric market. Two of the reports (from Research and Markets and Absolute Reports) were identified via communication with the respective company based on specific inquiries by the Secretariat and are not directly advertised online. One of the reports (from Mintel) is advertised online, and the Secretariat have inquired into the contents of this report.

74. The first report is provided by the company Mintel (2022) and is titled “The Future of Vitamins, Minerals, and Supplements 2022.” This report discusses the market trends of novel formulations over the next five years and discusses specific products. The brochure for this report argues that, in five years and beyond, “bioavailable supplements that support optimal absorption will stand

out.”

75. The second report is from Research and Markets.<sup>[1]</sup> It contains base data for 2022 and forecast data for 2023-2028 and segments the nutraceutical/supplement market by formulation type, including liposomal, nanoemulsions, micellar, and nano-encapsulated supplements. It is not clear from the proposal whether this report contains detailed information about the active ingredients that are being formulated in these ways, and their relative proportions within the market.

76. The third report is provided by the company Absolute Reports.<sup>[2]</sup> This report discusses the turmeric supplement market only and is titled “Europe Turmeric Supplement Market Research Report 2022 (Status and Outlook).” This report contains information about the relative proportion of the market composed by novel formulations, including ‘liposomal’, ‘micellar’, ‘emulsion-based’ and ‘nanoencapsulated’. This report also contains projected trends for these formulations, and some information on the uses of these supplements for specific ailments (e.g., osteoarthritis).

<sup>[1]</sup> The details of this report were retrieved via a quote from the company and are not publicly advertised.

<sup>[2]</sup> The details of this report were retrieved via a quote from the company and are not publicly advertised.