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***Case No COMP/M.6126 -
THERMO FISHER/
DIONEX
CORPORATION***

Only the English text is available and authentic.

**REGULATION (EC) No 139/2004
MERGER PROCEDURE**

Article 6(1)(b) NON-OPPOSITION
Date: 13/05/2011

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EUROPEAN COMMISSION

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In the published version of this decision, some information has been omitted pursuant to Article 17(2) of Council Regulation (EC) No 139/2004 concerning non-disclosure of business secrets and other confidential information. The omissions are shown thus [...]. Where possible the information omitted has been replaced by ranges of figures or a general description.

PUBLIC VERSION

MERGER PROCEDURE
ARTICLE 6(1)(b) DECISION

To the notifying party:

Dear Sir/Madam,

**Subject: Case No COMP/M.6126 – Thermo Fisher/ Dionex
Commission decision pursuant to Article 6(1)(b) of Council Regulation
No 139/2004¹**

1. On 4 April 2011, the European Commission received notification of a proposed concentration pursuant to Article 4 of Council Regulation (EC) No 139/2004, and following a referral pursuant to Article 4(5) thereof, by which the undertaking Thermo Fisher Scientific Inc. ("Thermo Fisher", USA, hereinafter the "notifying party") acquires within the meaning of Article 3(1)(b) of the Merger Regulation control of the whole of the undertaking Dionex Corporation ("Dionex", USA) by way of a public bid.

I. THE PARTIES

2. Thermo Fisher is active in the production and sale of analytical instruments, scientific equipment, consumables, reagents, services and software for research, analysis, discovery and diagnostics.

¹ OJ L 24, 29.1.2004, p. 1 ("the Merger Regulation"). With effect from 1 December 2009, the Treaty on the Functioning of the European Union ("TFEU") has introduced certain changes, such as the replacement of "Community" by "Union" and "common market" by "internal market". The terminology of the TFEU will be used throughout this decision.

3. Dionex is active in the field of analytical instruments, notably in the manufacture and marketing of liquid chromatography (in particular ion chromatography) instruments, sample preparation systems, consumables and software for chemical analysis.

II. THE OPERATION AND THE CONCENTRATION

4. On 20 December 2010, Thermo Fisher made an offer to acquire all outstanding shares of Dionex pursuant to an Agreement and Plan of Merger entered into on 12 December 2010. As a result, Thermo Fisher will acquire sole control of Dionex and the proposed transaction constitutes a concentration within the meaning of Article 3(1)(b) of the Merger Regulation.

III. EU DIMENSION

5. The operation does not have an EU dimension within the meaning of Article 1(2) of the Merger Regulation. The aggregate worldwide turnover of all the undertakings concerned is more than EUR 5 000 million but only one of the undertakings concerned ([...]) has an aggregate EU-wide turnover of more than EUR 250 million. [...]. The concentration does not meet either the thresholds laid down in Article 1(3) of the Merger Regulation. The combined aggregate worldwide turnover of all the undertakings concerned is more than EUR 2 500 million. However, the aggregate turnover of [...] is not greater than EUR 25 million in at least three Member States.
6. On 1 February 2011, the notifying party informed the Commission in a reasoned submission that the concentration was capable of being reviewed under the national competition laws of six Member States (namely, [...]) and requested the Commission to examine it. None of the Member States that were competent to examine the concentration indicated its disagreement with the request for referral within the period laid down by the Merger Regulation. The notified operation is therefore deemed to have an EU dimension according to Article 4(5) of the Merger Regulation.

IV. RELEVANT MARKETS

A. General introduction to markets and overlaps/links

7. Thermo Fisher and Dionex are both active in the analytical and life sciences field, which comprises the manufacture and sale of instruments as well as associated services, software and consumables used for the analysis of chemicals by customers in a wide variety of applications.
8. In a previous decision², the Commission considered that it is possible to identify different sectors within the analytical and life science instrumentation field according to the following nine techniques used for analysis: (i) separations; (ii) life sciences; (iii)

² See Case M.5611 – *Agilent/Varian*, Commission decision of 20 January 2010.

mass spectrometry; (iv) molecular spectroscopy; (v) atomic spectroscopy; (vi) surface science; (vii) materials characterisation; (viii) laboratory automation; and (ix) general analytical. Each of these nine sectors may in turn be segmented by reference to the specific analytical technique. For example, within the separations sector it is possible to identify sub-segments for instruments based on the gas chromatography (“GC”) technique and on the liquid chromatography (“LC”) technique, such as Nano-LC instruments. Similarly, it is possible to identify a number of sub-segments within the mass spectrometry (“MS”) sector.

9. Thermo Fisher and Dionex are both active on the Liquid Chromatography instruments segment, particularly in relation to Nano-LC instruments. Within the LC Instruments segment, Dionex is a leading manufacturer of Ion Chromatography instruments, whilst Thermo Fisher does not have any activity in this segment. Thermo Fisher manufactures Mass Spectrometry instruments but Dionex does not have any activities in this regard. Thereby, the proposed transaction will result in overlaps stemming from the Parties' activities in the Nano-LC instruments as well as, to a lesser extent, certain other instruments and consumables (see, below, horizontal issues). Furthermore, the Parties' activities in Nano-LC instruments and MS instruments belong to closely related markets (see, below, vertical and conglomerate issues).

B. Relevant product markets

(a) Instruments

(i) Liquid Chromatography (LC)

10. Liquid Chromatography is a technique involving the *separation* of soluble chemical compounds in a *liquid* stream. Instruments based on the LC technique are thus used to separate a sample of soluble, non-volatile substances into its individual components.
11. LC instruments use a liquid³ (the 'mobile phase') to transport the dissolved sample through a chromatographic column containing an inert material or coated with an active chemical substance (the 'stationary phase'). Each component within the sample displays a different affinity for the stationary phase and moves through the column at different rates. This allows the separation of the mixture into its individual components prior to detection and quantification through the use of a detector.
12. In terms of a report drawn up by the market research analyst, Strategic Developments Inc ("SDI"),⁴ the LC segment may be sub-segmented into: (i) ion chromatography (“IC”); (ii) high-pressure liquid chromatography (“HPLC”) (iii) low pressure liquid chromatography (“LPLC”); (iv) supercritical fluid chromatography; and (v) flash chromatography. On the basis of this segmentation, the Parties' activities overlap only in relation to HPLC.

³ This is in contrast to instruments based on the gas chromatography ("GC") technique which use an 'inert gas' to transport the sample through the chromatographic column.

⁴ SDI, *Global Assessment Report: The Laboratory Analytical & Life Science Instrumentation Industry*, 11th Edition, October 2010 ("SDI Report").

13. With respect to IC instruments, the notifying party submits that these are principally employed for the analysis of inorganic ions whereas other LC instruments are used for the analysis of organic samples. Given the differences in technology, components and applications, according to the notifying party, IC instruments constitute a separate product market from other LC instruments.
14. In the present case, the market investigation has largely confirmed the notifying party's submissions and thus that IC instruments constitute a separate product market from other LC instruments. In addition, this is supported by the analysis of the bidding data provided by the notifying party.
15. With respect to HPLC instruments, the Commission, in *Agilent/Varian*,⁵ considered that it may be possible to sub-segment the HPLC space on the basis of the existing specific analytical techniques (including, for instance, analytical HPLC, gel permeation/size exclusion HPLC and preparation HPLC). However, the product market definition as regards HPLC instruments was ultimately left open as the proposed transaction did not give rise to any serious doubts regarding this area in that case.
16. The notifying party refers to the SDI Report, which sub-segments HPLC into the following categories: (i) analytical HPLC⁶; (ii) Nano-LC⁷; (iii) ultra-high pressure LC (“U-HPLC”)⁸; (iv) preparative HPLC; (v) gel permeation/size exclusion chromatography; and (vi) amino acid analyser systems. On the basis of this segmentation, the Parties' activities overlap in relation to analytical HPLC, Nano-LC and U-HPLC.
17. The notifying party further submits that Nano-LC and U-HPLC are more appropriately classified as segments within analytical HPLC. However, the notifying party does not consider U-HPLC instruments to form a product market distinct from analytical HPLC instruments. By contrast, it considers that Nano-LC instruments might constitute a distinct product market from the other forms of analytical instruments.
18. However, in the present case, there is no need to conclude on whether analytical HPLC and U-HPLC could constitute separate product markets as the proposed transaction will not give rise to competition concerns in this regard under any alternative market delineation.

⁵ In this case, the Commission only made reference to HPLC and LPLC technology when considering the LC space.

⁶ According to the notifying party, standard analytical HPLC instruments have flow rates of 100 microlitre per minute to 10 milliliters per minute. The flow rate relates to the amount of fluid which passes through a given surface per unit of time. Standard analytical HPLC instruments have a pressure range of between 300 and 600 bar. It is the pressure, generated by a pump, which delivers the solvent through an HPLC system.

⁷ Nano-LC instruments, according to the notifying party, drive dissolved mixtures through columns of 75 microns with very low flow rates (less than one microlitre per minute).

⁸ According to the notifying party, U-HPLC instruments are those that deliver pressure greater than 600 bar and as high as 1 000 to 1 300 bar.

19. With regard to Nano-LC instruments, the market investigation has confirmed that they should be considered as belonging to a separate market from other HPLC instruments notably due to the fact that Nano-LC instruments require specially designed components (e.g. very low flow rate; special type of columns), are more difficult to operate and require skilled personnel to assemble the system. This is also supported by the results of the analysis of the bidding data submitted by the notifying party.

(ii) Mass spectrometry (MS)

20. The components within a mixture which are separated by a chromatography instrument (such as a LC instrument) emerge from the separating element of the instrument (that is, the column) at different times. According to the information submitted by the notifying party, chromatographic detectors (such as infrared detectors, UV/visible diode-array detectors and refractive index detectors) identify the separated components by measuring the time between the introduction of the sample and the appearance of the 'peak' of each component (retention time).
21. MS instruments are sophisticated detectors which convert the molecules in a sample into ions (charged particles). These charged particles are then separated according to their mass-to-charge ratio and the quantity of each ion is measured. Whilst chromatography detectors identify compounds by relative retention time comparisons, MS systems measure the characteristic mass-to-charge ratio and are able to fragment ions to provide structural information. The notifying party submits that MS instruments provide thus a second dimension of identification specificity when combined to a chromatograph.
22. According to the notifying party, whilst MS instruments are often used together with GC and LC instruments⁹, the MS instruments used with LC instruments are not substitutable with those used with GC instruments. This has been confirmed by the market investigation.
23. The notifying party further notes that, unlike GC instruments¹⁰, LC instruments do not need to be physically integrated with MS to perform effectively. During the market investigation, the vast majority of the respondents have confirmed this. Moreover, only a minority of the respondents confirmed that they owned physically integrated Nano-LC and MS systems.
24. On this basis, and since the conditions for supply and demand of MS and LC instruments are different, the notifying party submits that it is not appropriate to identify a market for liquid chromatography-mass spectrometry ("LC-MS") instruments. The notifying party further notes that LC and MS are, in effect, separate instruments as they can be sold on a stand-alone basis and are not used as inputs for the manufacture of physically integrated LC-MS systems. This implies that typically the

⁹ According to the notifying party, IC instruments are almost never paired with MS instruments largely because the former commonly use a conductivity detector instead. Thereby, for the purposes of this section, when reference is made to LC instruments, this excludes IC instruments unless otherwise stated.

¹⁰ In order to maintain the steady temperature which is needed for the gas-chromatography/mass spectrometry ('GC-MS') process, MS instruments generally need to be physically integrated when used with GC instruments.

customer has the ability to use an MS instrument from one manufacturer with a Nano-LC from a different manufacturer.

25. The vast majority of the customers responding to the market investigation confirmed that they owned Nano-LC instruments from one manufacturer paired with MS instruments from another manufacturer. Furthermore, the majority of customers clearly noted that all Nano-LC instruments could function optimally with all brands of MS and that they were not aware of instances where a certain Nano-LC instrument could only function with a particular MS manufacturer brand.
26. The notifying party further submits that virtually all Nano-LC instruments are coupled with a MS instrument as a detector, whereas standard HPLC instruments are more frequently coupled with less expensive optical detectors.
27. Indeed, in the market investigation, the vast majority of respondents confirmed that Nano-LC instruments are coupled with MS instruments whereas other HPLC are more frequently coupled with other optical detectors. For instance, several respondents considered the sensitivity required from the detector to be a decisive factor in using an MS as a detector as these are more sensitive than optical detectors.
28. In view of the results of the market investigation confirming the notifying party submission that Nano-LC and MS are separate instruments, and that no separate market for LC-MS systems should be identified, it is concluded that Nano-LC and MS belong to neighbouring product markets rather than to vertically related markets.
29. As regards the market delineation for MS, in *Agilent / Varian*, the Commission acknowledged that it may be possible to sub-segment the sector for MS instruments that are typically used with LC instruments according to the specific analytical technique of the MS instruments populating this sector, including single quad, tandem (Triple quad and Ion trap) and LC-Time of Flight ("LC-TOF") instruments. However, the Commission left the product market definition open as the transaction did not give rise to any serious doubts in this regard.
30. According to the notifying party, there are a number of MS technologies available which may be paired with a Nano-LC instrument: (i) Ion trap; (ii) LC-TOF; (iii) Triple quadrupole; (iv) Hybrid (Q-TOF and hybrid orbitrap); (v) Non-hybrid orbitrap; and (vi) FT-MS.¹¹
31. In this regard, although the market investigation has confirmed that Nano-LC instruments can be paired with various MS technologies, it has not conclusively established the need for a potential segmentation of MS on the basis of each technology which may be utilised with Nano-LC instruments. The market investigation has also shown that at least some MS technologies such as Q-TOF, Hybrid orbitrap and Non-hybrid orbitrap exert competitive pressure on each other, in terms of applications, sensitivity and prices. Therefore, for the purpose of this case, the product market definition with regards to MS instruments can be left open as the proposed transaction would not raise serious doubts irrespective of the market delineation.

¹¹ Thermo Fisher is active in ion trap, hybrid, triple quadruple, non-hybrid orbitrap and FT-MS technology.

(b) Consumables

32. The notifying party submits that consumables used in relation to LC instruments fall into the following categories: (i) columns (used to separate the mixture introduced in the LC instruments into its individual components prior to detection and quantification); (ii) vials (small glass or plastic containers which are used to store samples for chromatographic analysis); and (iii) solvent and reagents (a solvent is the liquid into which a reagent is dissolved, while a reagent is a chemical substance used to cause a chemical reaction, or to test whether a chemical reaction occurs). In view of the fact that the proposed transaction does not lead to any overlaps in relation to solvents or reagents, these products will not be considered any further in this decision.
33. In relation to columns, in practice, an end-user would not use a column designed for one type of HPLC instrument with a different type of HPLC instruments. However, the precise market definition may be left open as, in the proposed transaction, no competition concerns arise even under the narrowest market definition (that is, considering that columns used with Nano-LC instruments constitute a separate product market).
34. Considering vials, the individual characteristics of a vial will depend on the application for which the sample contained in the vial will be used. According to the notifying party, manufacturers of vials generally manufacture a variety of different vials which are in turn either sold to resellers, instrument manufacturers, distributors and/or directly to end-users. Given that from a supply side perspective, most manufacturers and suppliers manufacture and/or supply a broad range of vials, the notifying party considers that it would be inappropriate to define the market narrowly by reference to different categories of vial. For the purpose of this decision, the relevant product market is considered to encompass all vials.

(c) Software

35. The output of an analytical instrument generally reaches the user through an attached computer data system which allows the user to view and manage the said output.
36. In *Agilent/Varian*, the Commission found that the vast majority of software used in GC instruments is usually integrated in the instrument and supplied by the same manufacturer of the instrument. Considering also that the market investigation in that case showed that customers usually purchase the software together with the GC instrument, the Commission concluded that it was not appropriate to distinguish a separate product market for GC software which is distinct from the GC instrument market.
37. In line with *Agilent/Varian* decision, the notifying party submits that software does not constitute a separate market from the corresponding analytical instruments. The market investigation has confirmed this assessment. In particular, the majority of respondents indicated that they usually purchase their software jointly with the instrument. As regards connecting instruments from different vendors on proprietary software developed for a specific major instrument manufacturer, the majority of respondents indicated that this would require minor adaptations (e.g. use of the appropriate drivers).

38. In view of the above, for the purpose of this decision, it is considered that it is not necessary to distinguish a separate market for software.

(d) Distribution

39. Analytical instruments and consumables' manufacturers may directly sell their products to end-users or they may be sold by distributors.
40. In *Thermo/Fisher Scientific*¹², the Commission analysed the competitive impact of the transaction on the basis of a market for the distribution of laboratory and electrochemistry products.
41. The notifying party submits that distributors typically are able to offer customers a wide range of different products from various manufacturers in a single catalogue, hence simplifying customers' procurement processes. In this regard and in line with the referred Commission's previous decision, it is considered that the distribution of laboratory and life sciences products should be considered as a separate market.

C. Relevant geographic markets

42. In *Agilent/Varian*, the Commission concluded that the geographic scope of certain markets within the Separations and MS space and of hypothetical markets for certain consumables were EEA-wide in scope. However, given the small overlaps which resulted from the transaction with regard to the HPLC and LC-MS spaces under any plausible alternative market delineation, the question whether these segments are EEA-wide or global was left open.
43. The notifying party submits that the geographic scope in respect of each of the HPLC (and any sub-segments) and MS sectors is global, or at least EEA-wide since: (i) all relevant products are manufactured at centralised sites and ship from those sites to regional distribution hubs around the world; (ii) transport costs are low as a proportion of total cost of the instrument; (iii) few, if any, regulatory differences apply with respect to the sale of these products between regions of the world; (iv) no technical differences exist between products shipped anywhere in the world; (v) while there is preference for sales service, manufacturers are typically present worldwide either through subsidiaries making direct sales or through distributors. In addition, in support of an EEA-wide market definition, the notifying party submits that the same competitive forces and constraints exist throughout the EEA and that although their position may vary, the same competitors are present throughout and there are no barriers to entry/expansion in a particular country.
44. The overwhelming majority of respondents to the market investigation conducted in the present case confirmed the submission of the notifying party that the geographical scope of the LC and MS instruments market is at least EEA-wide particularly given the similarity in the conditions of competition in different EEA countries.

¹² See Case M.4242 – *Thermo Fisher/Fisher Scientific*, Commission decision of 9 November 2006.

45. As regards the issue whether the market for Nano-LC instruments may be considered EEA-wide or global, the market investigation was inconclusive. In this regard, numerous respondents indicated that there are no significant price differences between the EEA and other regions in the world, whilst others expressed indications to the contrary.
46. With respect to consumables, the notifying party considers that the geographic scope for this market is global or at least EEA. In view of the minor overlaps which will result from the transaction with regard to consumables under any plausible alternative market definition, it can be left open whether this market is global or EEA-wide.
47. In *Thermo/Fisher Scientific*,¹³ the Commission took the view that the appropriate geographic market definition for the distribution of laboratory and electrochemistry products was national. Consistent with this decision, the notifying party contends that the scope of the geographic market for the distribution of analytical instruments is national. In effect, notwithstanding the recent attempts at pan-European distributors like CCG, the notifying party notes that the majority of distributors compete nationally or across two or three countries.
48. Thereby, in the present case, the question of whether the geographic scope of the markets for (i) LC instruments; (ii) MS instruments and (iii) consumables is EEA or wider can ultimately be left open since the transaction would not raise any competition concerns under any plausible geographical market definition. As to the distribution of analytical instruments, in line with the mentioned Commission precedent, the geographic scope of the market is considered to be national. With regard to Nano-LC instruments, in light of the findings elaborated in paragraph 45 above, the question whether the market for Nano-LC instruments is EEA-wide or global may be left open.

V. COMPETITIVE ASSESSMENT

(a) Instruments

(i) Horizontal issues

49. Affected markets as the result of this transaction only arise in relation to an overall market for all LC instruments at global level, U-HPLC instruments market¹⁴ at global level and with respect to Nano-LC instruments market at both global and EEA-levels.
50. According to the information submitted by the notifying party, the transaction leads to affected markets at a global level in respect to an overall market for all LC instruments (where the proposed transaction will result in a combined market share of [20-30]% by value and [10-20]% by volume) and in relation to a market for U-HPLC instruments

¹³ Case M.4242 – *Thermo Fisher/Fisher Scientific*, Commission decision of 9 November 2006.

¹⁴ No affected markets arise in relation with a market for Analytical HPLC instruments (Worldwide market shares in 2010 by value of Thermo and Dionex were respectively [0-5]% and [5-10]% while EEA-wide market shares were respectively [0-5]% and [0-5]).

(where the proposed transaction will result in a combined market share of [20-30]% by volume).¹⁵

51. The worldwide market shares for the merged entity on these product markets are below [20-30]% and are therefore not of a level to raise competition concerns. A number of other players which are also active in these markets and may be expected to continue to exercise a competitive constraint on the merged entity. It is therefore concluded that the proposed transaction does not give rise to concerns in relation to these markets.
52. According to the information submitted by the notifying party, the proposed transaction will also give rise to affected markets at both global and EEA-levels with respect to Nano-LC instruments.
53. In this regard, the notifying party submits that the proposed transaction does not raise concerns of non-coordinated effects in the market for Nano-LC instruments, in particular because the Nano-LC instrument market is and will remain highly competitive post merger; and the parties' products are not each others' closest competitors.
54. The notifying party further submits that the proposed transaction does not raise either concerns of coordinated effects in the market for Nano-LC instruments, in particular because: (i) there is no evidence of pre-merger coordination of competitive behaviour; (ii) Nano-LCs are differentiated products; (iii) there is insufficient price transparency; (v) customers are not homogenous; (v) Nano-LC instruments are only purchased infrequently; and (vi) there are a large number of players on the market. These factors would make the prospect of coordinated effects unlikely.
55. As indicated in paragraph 45, there were indications in the market investigation that the market for Nano-LC instruments may be a global one. Worldwide, the notifying party estimates that the proposed transaction will result in a combined market share not exceeding [30-40]%; [10-20]% by value (Dionex: [10-20]%; Thermo Fisher: [5-10]%) and [20-30]% by volume (Dionex [10-20]%; Thermo Fisher [5-10]%). According to the information submitted by the notifying party, the merged entity may be expected to continue to face competitive constraints from competitors, notably, Agilent and Waters (each having a market share of approximately [30-40]% by value and [20-30]% by volume).¹⁶ In this regard it is pertinent to note that when describing the 2008 global Nano-LC market, industry analyst, SDI, states that "*[o]verall, the competitive landscape for systems appears to be wide open, as there seems to be no clear-cut leader...*" ¹⁷ The report also estimates that (in relation to 2008), Agilent leads the market with nearly a quarter of the market. In this regard, the market share estimate

¹⁵ The source for the market share figures are the notifying party's estimates for the 2010 financial year submitted in the Form CO. Technically, an affected market for a global U-HPLC market only arises if one considers market shares by volume since according to the estimates submitted by the notifying party, the proposed transaction will result in a value-based combined market share of [10-20]%.

¹⁶ The source for the market share figures are the notifying party's estimates for the 2010 financial year submitted in the Form CO.

¹⁷ SDI Report titled "*Liquid Chromatography: User Requirements Force Adjustments, Market Forecast: 2008-2013*", June 2009, page 279.

submitted by the notifying party for 2008 does not vary significantly in comparison to the SDI Report. Other competitors include Shimadzu and Eksigent/AB Sciex.

56. According to the information submitted by the notifying party, at the EEA level, the proposed transaction will result in a combined market share of approximately [30-40]% in terms of volume on the Nano-LC market (Thermo Fisher [10-20]%; Dionex: [10-20]%) and [20-30]% in terms of value (Thermo Fisher: [5-10]%; Dionex [10-20]%). According to the information submitted by the notifying party, the merged entity may be expected to continue to face competitive constraints from competitors, notably, Agilent (with a market share of approximately [30-40]% by value and [20-30]% by volume) and Waters (with a market share of approximately [30-40]% by value and [30-40]% by volume).¹⁸ Other competitors include Eksigent/AB Sciex (market share of [5-10]% by value and [0-5]% by volume).
57. The market investigation has indicated that the parties may have underestimated their own market shares in relation to Nano-LC instruments (and, accordingly, over-estimated those of some of their competitors), particularly at the EEA level in 2010. Yet, the market investigation has also indicated a certain degree of fluctuation in the market shares of the various market players, implying that market shares for a given year would not constitute a good proxy for market power.
58. The market investigation has in any event confirmed various elements, beyond market shares, which allow for the conclusion that the proposed transaction would not result in concerns in relation to the Nano-LC instrument markets at both global and EEA levels.
59. In this respect, the majority of customers do not consider that the parties are each others' closest competitors.¹⁹ Indeed, the large majority of customers who indicated that they had purchased a Dionex instrument did not list Thermo Fisher as the competing manufacturer considered at the time of purchase.²⁰ Similarly, the large majority of customers who indicated that they had purchased a Thermo Fisher instrument did not list Dionex as the competing manufacturer considered at the time of purchase.²¹
60. Tender data provided by the parties confirm that Nano-LC instruments sold by the parties are not the closest substitutes. In tenders won by Dionex for Nano-LC, the perceived competing bidders are, in most cases, Agilent or Waters rather than Thermo Fisher.
61. Furthermore, the market investigation did not reveal significant barriers to switching for customers. Indeed, a significant number of customers replying to the market

¹⁸ The source for the market share figures are the notifying party's estimates for the 2010 financial year submitted in the Form CO.

¹⁹ Replies to question 39 of the Commission's questionnaire to customers dated 6 April 2011.

²⁰ Replies to question 29 of the Commission's questionnaire to customers dated 6 April 2011.

²¹ Replies to question 29 of the Commission's questionnaire to customers dated 6 April 2011.

investigation have indicated that they have switched between different Nano-LC manufacturers in the past.²²

62. Moreover, the large majority of respondents to the Commission's market investigation have not expressed concerns arising from the proposed transaction in relation to the Nano-LC instrument markets at global and EEA levels. Although some customers indicated that the proposed transaction will reduce competition on the market since the proposed transaction will reduce the number of market players, other customers indicated that there would still be many available options on the market and that the proposed transaction would not negatively impact the Nano-LC instrument markets.²³
63. As regards potential coordinated effects, the market investigation in this case has not revealed evidence of pre-merger coordination of competitive behaviour in relation to the Nano-LC instrument market at global and EEA levels. On the contrary, the market investigation revealed a number of elements which would render a finding of coordination of competitive behaviour unlikely.
64. In particular, a significant number of customers have indicated that they have switched between different Nano-LC manufacturers in the past²⁴, with many customers citing better offers and price variations as the reason for the switch.²⁵ Furthermore, the market investigation revealed that, for most customers, price is indeed a key determinant when purchasing Nano-LC instruments.²⁶
65. In light of all the above, it is concluded that the proposed transaction does not give rise to serious doubts with respect to non-coordinated or coordinated effects in relation to the markets for Nano-LC instruments at global and EEA levels.

(ii) Vertical issues

66. A vertical relationship might be considered to arise as a result of the supply relationship that sometimes exists between Nano-LC instrument manufacturers and MS instrument manufacturers which purchase Nano-LC instruments for resale with their MS instruments.
67. However, the market investigation has confirmed that Nano-LC and MS are separate although related instruments. LC and MS instruments can be sold on a stand-alone basis and are not used as inputs for the manufacture of physically integrated Nano-LC-MS systems. The customer typically has the ability to use a MS instrument from one manufacturer with a Nano-LC instrument from a different manufacturer.

²² Replies to question 30 of the Commission's questionnaire to customers dated 6 April 2011.

²³ Replies to question 65 of the Commission's questionnaire to customers dated 6 April 2011.

²⁴ Replies to question 30 of the Commission's questionnaire to customers dated 6 April 2011.

²⁵ Replies to question 31 of the Commission's questionnaire to customers dated 6 April 2011.

²⁶ Replies to question 32 of the Commission's questionnaire to customers dated 6 April 2011.

68. In view of the above, it is concluded that the relation between Nano-LC and MS instruments is that of neighbouring product markets rather than that of vertically related markets. This relation is examined in the following section.

(iii) Conglomerate issues

69. The market investigation has assessed the potential conglomerate effects arising between Nano-LC instruments and MS instruments, namely those deriving from technical tying (by which as a result of the transaction interoperability between LC and MS instruments of different vendors might be reduced) and mixed bundling (whereby the price of composite packages of Nano-LC instruments and MS instruments that can be combined with a Nano-LC instruments will be cheaper than the standalone instruments' prices).²⁷

Market structure

70. While both Thermo Fisher and Dionex are active in the manufacturing of Nano-LC instruments only Thermo Fisher is active in the manufacturing of MS instruments.
71. As regards the market for Nano-LC instruments, according to Thermo Fisher's estimates, the combined market share of the Parties at the EEA level was [30-40]% in volume and [20-30]% in value while at a worldwide level the combined market share was [20-30]% in volume and [10-20]% in value.
72. As regards the hypothetical market for all MS instruments that can be combined with a Nano-LC instrument, Thermo Fisher estimates that in 2010 it held a market share of approximately [30-40]% by value and [20-30]% by volume at EEA level. Thermo's main competitor at EEA level, Waters, held a market share of approximately [20-30]% by value and [20-30]% by volume. At global level, Thermo Fisher held a market share of approximately [20-30]% by value and [20-30]% by volume. Thermo's main competitor at global level, AB Sciex, held a market share of approximately [20-30]% by value and volume.
73. As to the potential sub-segments of the hypothetical market for all MS instruments that can be combined with a Nano-LC, Thermo Fisher's market shares are significantly larger in some categories. In this respect, Thermo Fisher manufactures and sells Ion trap, Triple quad, Non-hybrid Orbitrap and Hybrid Orbitrap. Thermo Fisher's Orbitrap technology (used in its Hybrid and Non-hybrid Orbitraps) is currently patent-protected and consequently Thermo Fisher is the exclusive manufacturer of hybrid and non-hybrid Orbitrap instruments. However, the notifying party submits that hybrid Orbitrap instruments compete especially closely with other hybrid MS instruments (such as Q-TOF that Thermo Fisher does not manufacture). The market shares for the MS instruments that can be coupled with a Nano-LC are indicated in the Table below.

²⁷ MS instruments can also be paired with analytical HPLC instruments. However, given that the combined market share of the Parties in analytical HPLC is small and that the vast majority of analytical HPLC instruments are paired with detectors other than MS instruments, possible conglomerate effects arising from this relationship will not be considered further. Similarly, given that MS instruments are extremely infrequently paired with IC instruments they are not considered related markets and possible conglomerate effects arising from this relationship will not be considered further.

**Thermo Fisher's market shares for MS instruments that can be combined
with a Nano-LC (%) 2010**

		Ion Trap	Triple quad	Non-hybrid Orbitrap	Hybrid MS (Q-TOF and hybrid Orbitrap)
Volume	Global	[40-50]	[10-20]	100	[20-30]
	EEA	[30-40]	[10-20]	100	[40-50]
Value	Global	[50-60]	[10-20]	100	[30-40]
	EEA	[40-50]	[10-20]	100	[40-50]

Source: notifying party estimates (Form CO)

Technical Tying

74. The market investigation revealed potential concerns that, post-transaction, the merged entity might engage in a technical tying strategy by restricting interoperability of its Nano-LC instruments with its competitors' MS instruments and/or interoperability of its MS with its competitors' Nano-LC instruments.

Leveraging of market power from Nano-LC to MS instruments

75. The transaction will not confer the merged entity the ability to engage in a strategy to leverage its increased position in Nano-LC to foreclose competitors in MS by restricting interoperability.
76. In particular, notably for the reasons indicated in the section on horizontal effects, the transaction would not enable the merged entity to achieve sufficient market power to successfully engage in such a foreclosure strategy. In fact, Thermo Fisher was already active in the Nano-LC segment before the merger and, although through this transaction it adds Dionex's Nano-LCs to its portfolio, there remain significant producers of Nano-LC on the market (such as Agilent, Waters, AB Sciex and Shimadzu). In addition, these competitors are currently active as well in the MS segment (furthermore, Bruker, another producer of MS instruments has recently acquired a manufacturer of Nano-LCs).
77. Finally, as confirmed by the market investigation, it appears that the merged entity will not be in possession of a "must have product" in the Nano-LC space.

Leveraging of market power from MS to Nano-LC instruments

78. The transaction will neither confer the merged entity the ability or the incentive to engage in a strategy to leverage its position in the MS segment to foreclose competitors in Nano-LC by restricting interoperability of its MS instruments with Nano-LCs from other manufacturers.

79. As regards ability, the transaction would not enable the merged entity to achieve sufficient market power to successfully engage in such a foreclosure strategy. In this respect, in an overall EEA market for all MS instruments that can be combined with a Nano-LC, Thermo Fisher accounts for a share of [30-40]% in value and [20-30]% in volume (at global level, Thermo Fisher holds a market share of approximately [20-30]% by value and [20-30]% by volume). In case each of the MS technologies were to be considered a separate market on their own right, Thermo will hold an EEA wide market share (by value) in Hybrid MS (Hybrid Orbitrap²⁸ and Q-TOF) of [40-50]%, a market share of [40-50]% in Ion trap and a market share of 100% in Non hybrid Orbitrap²⁹ (as indicated in the table above, Thermo Fisher's market shares in Hybrid MS and Ion trap are relatively lower worldwide). It shall be observed that the transaction brings about no change in the market for MS instruments since Dionex was not present in this market pre-transaction.
80. It should be noted that all the main players on the Nano-LC market except Dionex (namely Agilent, Waters, Eksigent and Shimadzu) are already present in MS (similarly, Bruker, another MS manufacturer, has recently acquired Michrom, which produces Nano-LC)³⁰. Therefore, other integrated providers of Nano-LC and MS already exist in the market. As to their MS product offering, Agilent is active in Ion Trap and Q-TOF MS, Bruker is active in Q-TOF and Ion trap, AB Sciex is active in Q-TOF, Shimadzu is active in Hybrid MS and Waters is active in Q-TOF MS.
81. Therefore, the market players which might be affected by a foreclosure strategy are already integrated with regards to their Nano-LC and MS offerings. Even in the hypothetical case in which the merged entity were to limit the interoperability of its Nano LC and MS instruments, the presence of other major integrated competitors such as Agilent, Waters, Bruker and AB Sciex will continue to exert a significant competitive constraint on the merged entity. The fact that Nano-LC and MS markets are subject to continuous innovation also limits the ability of any market player to engage in a foreclosure strategy.

²⁸ Combines an Orbitrap with a linear Ion trap, therefore is a more expensive instrument than an Orbitrap.

²⁹ As indicated, the market investigation confirmed that there is a certain degree of demand side substitution between Non hybrid Orbitrap, Ion trap and Q-TOF MS instruments. Thermo Fisher's tender data also confirms that a degree of substitutability exists among the different segments of MS instruments that can be coupled with Nano-LC. More precisely, in some tenders won by Thermo Fisher with a non-hybrid Orbitrap, Agilent was competing by offering a Q-TOF. This was observed also the other way around, namely, in some tenders won by AB Sciex or Agilent by offering a Q-TOF, Thermo was competing with a Hybrid/Non-hybrid orbitrap. If it were profitable to engage in tying Non hybrid Orbitraps with Nano-LCs, Thermo would already have been able pre-transaction to engage in such a strategy. Also, foreclosure of competitors is unlikely because the transaction will not result on a combined high market share of the Parties in Nano-LC and there will remain strong competitors that will strive to maintain their market share.

³⁰ There has been a recent move towards integration of Nano-LC and MS undertakings, shifting somewhat the competitive dynamics from "mix and match" towards combined offerings of Nano-LC and MS instruments by the same manufacturer. For example, Eksigent (manufacturer of Nano-LC) was acquired by Danaher in February 2010, which also acquired ABSciex (active in Q-TOF (Hybrid) MS) in the same month. Bruker (active in ion trap MS and Q-TOF MS) acquired Michrom (another manufacturer of Nano-LC) in February 2011.

82. Moreover, Thermo Fisher would have no economic incentive post-merger to restrict interoperability so that its MS instruments are only able to operate with one of the Parties' Nano-LC instruments. In this respect it should be noted that the profit it earns from the sale of a single MS instrument is substantially higher than the profit that it makes from the sale of a single Nano-LC instrument. In particular, according to the notifying party estimates, the average gross margins achieved by the merged entity in MS instruments that can be paired with a Nano-LC are significantly higher than the gross margins earned in Nano-LC instruments. Therefore it is unrealistic to consider that the merged entity would risk forgoing the higher profits it stands to gain from the sale of a MS instrument for the sake of the much smaller additional profit it might gain from its incremental sales of Nano-LC instruments.
83. In addition, the market investigation confirmed that since Thermo's acquisition of the Nano-LC manufacturer Proxeon in 2010, Thermo does not appear to have engaged in a strategy of limiting interoperability between Nano LC and MS instruments leading to foreclosure in these markets.
84. Finally, the market investigation revealed that the sale of standalone MS is very high. Hence, the sales of MS coupled with a Nano-LC represent a small proportion of all sales of MS. Consequently, even if post merger the interoperability between Nano-LC and MS were reduced, it is very unlikely that MS producers would be harmed to a significant extent, as the biggest part of their business would remain unaffected.

Conclusion

85. In view of the above, it is considered that the transaction would not raise serious doubts as regards as to its compatibility with the internal market and the functioning of the EEA Agreement with respect to an anticompetitive strategy of technical tying.

Mixed bundling

86. The market investigation confirmed that the main players in MS instruments that can be combined with a Nano-LC instruments (Agilent, AB Sciex, Waters, Bruker and Shimadzu) are also active in Nano-LC instruments³¹. These market players are already in a position and some already offer discounts for combined purchases.
87. In this respect it is noted that the existence of a multiplicity of suppliers and alternative products in either Nano-LC instruments or MS that can be combined with a Nano-LC instrument means that Thermo Fisher will not have enough market power to leverage its power in either Nano-LC or MS instruments.
88. Moreover, Thermo Fisher, given its current presence in both markets, can already offer a discount for the composite purchases and there is no evidence of any foreclosure effect arising from the transaction. This is true for many competing suppliers.

³¹ EEA-wide market shares by value of main competitors in MS that can be coupled with a Nano LC-instrument are Waters ([20-30]%), AB Sciex ([10-20]%), Agilent ([10-20]%), Bruker ([5-10]%) and Shimadzu ([0-5]%). Worldwide market shares by value of main competitors are Waters ([20-30]%), AB Sciex ([20-30]%), Agilent ([10-20]%), Bruker ([5-10]%) and Shimadzu ([0-5]%).

89. In view of the above, it is concluded that the granting of discounts to customers that purchase combined packages of MS instruments and Nano-LC instruments of the merged entity will not result in an anticompetitive strategy. For these reasons, the transaction does not raise serious doubts as to its compatibility with the internal market and the functioning of the EEA Agreement with respect to a potential mixed bundling.

(b) Consumables (Horizontal issues)

90. According to the information submitted by the notifying party, the proposed transaction will give rise to an affected market with respect to vials as the combined entity will hold at the EEA level a relative modest market share of [20-30]% by value and [10-20]% by volume, with a relatively small increment of [0-5]% by value and [0-5]% by volume³². These market shares are not of a level to raise competition concerns. A number of other players are also active in these markets and may be expected to continue to exercise a competitive constraint on the merged entity.

91. In the light of the above, it is concluded that the proposed transaction does not give rise to serious doubts in relation to these markets.

(c) Distribution (Vertical issues)

92. Thermo Fisher is active as a distributor of laboratory and life sciences products through its Customer Channel Group ("CCG") division. In view of the fact that Dionex is not active as distributor, no horizontal overlaps arise. However, as Dionex is present upstream in the markets for LC instruments, a vertical link may be created by the proposed transaction.

93. In this regard, the notifying party submits that it is only exceptionally that there is a vertical link between the upstream manufacture of analytical instruments and the downstream market for the distribution of laboratory and life science products. According to the notifying party, this is primarily due to the fact that distributors like CCG typically do not distribute analytical instruments such as HPLC instruments as these are usually sold directly to end-users by manufacturers.

94. In effect, the market investigation highlighted that manufacturers sell their LC instruments and Nano-LC instruments not only directly to customers but also through distributors. However, the market investigation has provided strong indications that the proportion of sales made to distributors only represents generally around 10% of total sales.

³² The source for the market share figures are the notifying party's estimates for the 2010 financial year submitted in the Form CO. Dionex's revenue used to calculate its share of supply by value of all vials at EEA level includes revenue from the sale of filter caps, [...]. Dionex does not manufacture filter caps, although it did design and continues to own the moulding and designs for these particular filter caps. Excluding revenue from the sale of these filter caps, Dionex's revenue in 2010 from the sale of all vials at EEA level was EUR [...], giving it a [0-5]% market share by value. Accordingly, excluding this revenue, the Parties would have a combined share of supply of all vials at EEA level of [10-20]% by value and [10-20]% by volume.

95. Furthermore, it is observed that certain of the LC consumables manufactured or supplied by Dionex are distributed through Thermo Fisher's CCG distribution business. However in this regard, no vertically affected markets arise in relation to the distribution of LC consumables via distributors, as the relevant market shares are below 25% at both the upstream and downstream levels. Thereby, these vertical links would not be considered any further for the purpose of this decision. For these reasons, the vertical relationships generated by transaction do not raise serious doubts as to its compatibility with the internal market and the functioning of the EEA Agreement.

VI. CONCLUSION

96. For the above reasons, the European Commission has decided not to oppose the notified operation and to declare it compatible with the internal market and with the EEA Agreement. This decision is adopted in application of Article 6(1)(b) of the Merger Regulation.

*For the Commission
(signed)*

*Joaquín ALMUNIA
Vice-President*