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12		
13	THE APPLE iPOD iTUNES ANTITRUST LITIGATION	Lead Case No. C 05-00037 YGR [CLASS ACTION]
14 15		DEFENDANT'S NOTICE OF MOTION
15 16	This Document Relates To:	AND MOTION FOR SUMMARY JUDGMENT AND TO EXCLUDE EXPERT TESTIMONY OF ROGER G.
17	ALL ACTIONS	NOLL
18		Date:February 18, 2014Time:2:00 PMCourtroom:5
19 20		[Public Version - Redacted]
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28		Motion for Summary Judgment and To Exclude C 05-00037 YGR

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2	other factors relevant to price	
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4	IV. DR. NOLL'S RELEVANT MARKET OPINIONS SHOULD BE EXCLUDED AND SUMMARY JUDGMENT GRANTED FOR FAILURE OF PROOF ON	
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	v To Exclude C 05-00037 YGR

1	NOTICE OF MOTION AND MOTION
2	PLEASE TAKE NOTICE that on February 18, 2014 at 2:00 p.m. defendant Apple Inc.
3	will and hereby does move for summary judgment and to exclude the expert testimony of Roger
4	G. Noll.
5	<u>RELIEF SOUGHT</u>
6	Apple requests that summary judgment be entered in Apple's favor on all claims and that
7	the testimony of plaintiffs' expert, Roger G. Noll, be excluded.
8	MEMORANDUM OF POINTS AND AUTHORITIES
9	INTRODUCTION
10	This motion seeks to resolve the last remaining claim in this long-running antitrust
11	lawsuit. Plaintiffs' principal claims have already been rejected. The record, with fact and expert
12	discovery now complete, indisputably establishes that plaintiffs cannot prove their remaining,
13	implausible assertion that an Apple software update in 2006 increased iPod prices.
14	Plaintiffs' claim relies on an incoherent chain of purported events. Plaintiffs' theory is
15	that the 2006 update, which prevented digital music from one insignificant source of music
16	(RealNetworks music store (RMS)) from being played directly on iPods, forced RMS customers
17	to buy music from Apple instead of RMS to play on their iPods, and they bought so much music
18	from Apple that if and when they needed to replace their iPods, they were locked in to buying an
19	iPod rather than switching to a competing device as they supposedly would have done if only
20	they had continued to buy music from RMS. Plaintiffs theorize that this chain of events happened
21	so often that demand for iPods increased to such an extent that Apple was able to, and did, charge
22	higher prices for iPods than it otherwise would have.
23	Apart from the implausibility of this theoretical chain, plaintiffs have no proof of any part
24	of it. They have no evidence that anyone, much less a sizeable group of consumers, switched
25	from RMS to Apple's music store as a result of the update, or that if anyone did, the incremental
26	amount of music they bought from Apple forced them to buy a replacement iPod even though
27	they preferred a competing device. The named plaintiffs do not fit that description. They have
28	identified no one who does. And they have not offered any survey of consumers to support their
	Motion for Summary Judgment and1To Exclude C 05-00037 YGR

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theory. Nor do they have any evidence that Apple's pricing of iPods turned on this purported
 chain of events.

Indeed, the record evidence refutes key parts of plaintiffs' theory. As their expert
admitted, RealNetworks was a minor player, with minimal sales at the time of Apple's software
update.

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10 Plaintiffs' economist, Dr. Noll, and his regression model cannot salvage their claim. The 11 regression purports to tease out a supposed incremental price effect of the 2006 update from the 12 multitude of factors that determine iPod pricing. But the regression is riddled with fundamental 13 errors and inconsistencies that render it unreliable and unable to support any finding of impact. 14 As shown below, the model is based on unsupported assumptions and produces results that are 15 irreconcilable with indisputable real-world facts. And Dr. Noll miscalculates the standard errors 16 to contend that his results are statistically significant. When the standard errors are properly 17 calculated, they show that the regression results are not significantly different from zero—which 18 is the expected result given the lack of any evidence that the 2006 update had any impact on 19 demand for iPods or that Apple considered it in determining iPod prices.

For these reasons, summary judgment should be granted in favor of Apple, and Dr. Noll's report and testimony should be excluded. Summary judgment should also be granted because Dr. Noll has not come close to conducting the required analysis to support his opinions regarding the relevant antitrust markets and plaintiffs have no other evidence to support their market definition. Defining a proper relevant market is required for a valid claim of monopolization. But plaintiffs and Dr. Noll again rely on *ipse dixit*, unsupported by relevant analysis.

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A.

BACKGROUND

Launch of the iTunes Store.

Apple launched the iTunes Store ("iTS") in April 2003. As the then-head of the

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1 Department of Justice Antitrust Division observed in 2006, the iTS "solved a problem that some 2 observers ... predicted might never be solved: how to create a consumer friendly, yet legal and 3 profitable, system for downloading music and other entertainment from the Internet." Declara-4 tion of Amir Amiri ("Amiri Decl.") filed herewith, Ex. 1 at p. 6. In the years preceding the iTS's 5 opening, music piracy had been rampant, with consumers using illegal peer-to-peer file sharing 6 sites like Napster to download music for free. The scale of this piracy was enormous, with as 7 many as 10,000 files being shared per second on Napster. See generally A&M Records, Inc. v. 8 Napster, Inc., 114 F. Supp. 2d 896, 902 (N.D. Cal. 2000), aff'd 239 F.3d 1004 (9th Cir. 2001). 9 The iTS was developed as a legal alternative to these illegal file-sharing sites. To 10 succeed, Apple had to (1) make the store so attractive to consumers and so easy to use that it 11 could compete with free music services, and (2) satisfy the recording industry's concerns that 12 licensed online distribution would lead to more piracy and theft and further erode the labels' 13 sales. ECF No. 538, ¶¶ 3-5; ECF No. 470, Ex. 3, 33:20-22. 14 Between November 2002 and April 2003, Apple and the major record labels (Sony, BMG, 15 EMI, Warner, and Universal) entered agreements that permitted Apple to distribute music 16 through the iTS. ECF No. 538, ¶ 5. 17 18 19 20 21 As plaintiffs and their expert admit, the iTS was "procompetitive" and a "huge benefit" 22 with "enormous advantages" to consumers. ECF No. 176, Ex. 21 at 105:8-20; ECF No. 322, 23 ¶ 14-15, 40. Fortune Magazine named the iTS its 2003 "product of the year," observing that "[w]ith the success of its iTunes Music Store, Apple is almost single-handedly dragging the music 24 25 industry, kicking and screaming, toward a better future." Amiri Decl, Ex. 2. 26 The labels continued to demand that all licensees of their music use DRM for several 27 years after the iTS was launched. The first major label to drop the requirement was EMI, which 28 permitted Apple to sell music without DRM beginning in early 2007. See Id., Ex. 3 at Ex. 1. By

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early 2008, all of the major labels permitted Amazon to sell their music without DRM. Id. 2 Finally, all the major labels dropped the DRM requirement for Apple in early 2009. In January 3 2009, Apple announced that about 8 million songs (or 80% of the music sold on the iTS) would 4 be available DRM-free from the iTS. Id. All songs on the iTS were available DRM-free 5 beginning in March 2009. Id.

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B. **Plaintiffs' Original Theory.**

7 Plaintiffs brought this suit in 2005—when the labels were still requiring Apple and others 8 to use DRM—alleging that Apple's use of FairPlay was an antitrust violation. They asserted that, 9 as a consequence of Apple's use of its own proprietary system, music purchased from the iTS was 10 directly playable on iPods but not on music players made by other companies. (iTS music could 11 be "indirectly" played on competing devices by burning the music to a CD and importing, or 12 "ripping," it to a computer.) They argued that Apple had thereby locked iTS purchasers into 13 buying iPods rather than competing players in the sense that their "switching costs" to change to a 14 non-iPod device would be greater.

15 Rejecting that claim, this Court held that it was lawful for Apple to adopt its own DRM, 16 even if the effect was to make Apple's products incompatible with competitors' products. ECF 17 No. 303, pp. 2, 10; ECF No. 274, p. 10.

18

С. The Amended Consolidated Complaint.

19 Plaintiffs responded by filing an amended complaint (ECF No. 322) with a new theory. 20 Having failed in challenging Apple's decision to use a proprietary DRM, they now challenged 21 later updates to Apple's software that they claim excluded competitors. ECF No. 322, ¶ 52.

22

1. iTunes 4.7.

23 The amended complaint focused on a feature in iTunes 4.7 issued in October 2004 to 24 enhance the FairPlay encryption system. The update fixed a vulnerability in FairPlay that had 25 been exploited by hacks that stripped DRM from iTS music.

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Apple did so by issuing iTunes 4.7, which changed the FairPlay

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1 encryption method and disabled the hacks.

1	encryption method and disabled the nacks.
2	Plaintiffs alleged that iTunes 4.7 also unlawfully shut down RealNetworks' "Harmony"
3	technology. As plaintiffs explained it, RealNetworks had "analyzed the firmware within the
4	iPod" and "discern[ed]" Apple's "software code." ECF No. 322, ¶ 53. By cracking FairPlay,
5	RealNetworks devised a way to make music purchased from its website mimic Apple's then-
6	existing encryption scheme and make it falsely appear to the iPod that the RealNetworks-
7	protected music was actually iTS music protected by FairPlay. ECF No. 538, ¶¶ 50-54.
8	RealNetworks released this "Harmony" technology in July 2004 and promoted it by selling
9	Harmony music at half-price (49 cents a song) for three weeks. When Apple released iTunes 4.7,
10	the update disabled Harmony as to the iPods with the update, because Harmony mimicked the
11	previous encryption method, not the updated one.
12	This Court (Ware, J.,) granted summary judgment to Apple on plaintiffs' challenge to
13	iTunes 4.7. ECF No. 627. The Court ruled that iTunes 4.7 was a valid product improvement
14	because—notwithstanding any effect it had on Harmony—it restored FairPlay's integrity,
15	<i>Id.</i> at 8.
15 16	Id. at 8.2.The Keybag Verification Code in iTunes 7.0
16	2. The Keybag Verification Code in iTunes 7.0
16 17	2. The Keybag Verification Code in iTunes 7.0 Plaintiffs also challenged an aspect of the iTunes 7.0 update issued in September 2006.
16 17 18	 2. The Keybag Verification Code in iTunes 7.0 Plaintiffs also challenged an aspect of the iTunes 7.0 update issued in September 2006. That update included a number of enhancements. For example, it enabled the sale of movies for
16 17 18 19	 2. The Keybag Verification Code in iTunes 7.0 Plaintiffs also challenged an aspect of the iTunes 7.0 update issued in September 2006. That update included a number of enhancements. For example, it enabled the sale of movies for the first time from the iTS, supported video at four times higher resolution than the previous
16 17 18 19 20	 2. The Keybag Verification Code in iTunes 7.0 Plaintiffs also challenged an aspect of the iTunes 7.0 update issued in September 2006. That update included a number of enhancements. For example, it enabled the sale of movies for the first time from the iTS, supported video at four times higher resolution than the previous version, and introduced Apple's distinctive "Cover Flow" method to browse through content on
16 17 18 19 20 21	 2. The Keybag Verification Code in iTunes 7.0 Plaintiffs also challenged an aspect of the iTunes 7.0 update issued in September 2006. That update included a number of enhancements. For example, it enabled the sale of movies for the first time from the iTS, supported video at four times higher resolution than the previous version, and introduced Apple's distinctive "Cover Flow" method to browse through content on
 16 17 18 19 20 21 22 	 2. The Keybag Verification Code in iTunes 7.0 Plaintiffs also challenged an aspect of the iTunes 7.0 update issued in September 2006. That update included a number of enhancements. For example, it enabled the sale of movies for the first time from the iTS, supported video at four times higher resolution than the previous version, and introduced Apple's distinctive "Cover Flow" method to browse through content on
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 16 17 18 19 20 21 22 23 24 25 	 2. The Keybag Verification Code in iTunes 7.0 Plaintiffs also challenged an aspect of the iTunes 7.0 update issued in September 2006. That update included a number of enhancements. For example, it enabled the sale of movies for the first time from the iTS, supported video at four times higher resolution than the previous version, and introduced Apple's distinctive "Cover Flow" method to browse through content on
 16 17 18 19 20 21 22 23 24 25 26 	 2. The Keybag Verification Code in iTunes 7.0 Plaintiffs also challenged an aspect of the iTunes 7.0 update issued in September 2006. That update included a number of enhancements. For example, it enabled the sale of movies for the first time from the iTS, supported video at four times higher resolution than the previous version, and introduced Apple's distinctive "Cover Flow" method to browse through content on

It also made the DRM more secure by eliminating one avenue of attack. *Id.* As they did in challenging iTunes 4.7, plaintiffs alleged that the was anticompetitive because it prevented music from other music stores from directly playing on certain iPods. In particular, plaintiffs argue that the updates again disabled RealNetworks' Harmony, which RealNetworks had re-launched in April 2005 after again cracking Apple's DRM software.

Judge Ware denied Apple's motion for summary judgment on this issue, finding that there
were issues of fact regarding whether the was truly a product improvement. ECF No. 627,
pp. 11-12.² Apple did not seek summary judgment on lack of impact or competitive injury at the
time because discovery was still ongoing. This Court's scheduling orders explicitly preserve
Apple's right to seek summary judgment on that issue after the completion of discovery.

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D. Plaintiffs' Theory of Impact.

14 Plaintiffs' theory of antitrust impact is that, by disabling Harmony, the resulted in some consumers purchasing more music from iTS than they otherwise would have. They assert 15 16 this increased the switching costs of those consumers to the point that they were locked in to 17 buying an iPod when they next purchased a digital music player. According to plaintiffs, that increased demand for iPods led Apple to raise iPod prices. At the same time, they say, other 18 customers were locked out of buying iPods after the because they had large libraries of 19 20 Harmony music that would no longer play on the iPods on which the was implemented. 21 According to plaintiffs, this lock-out led to higher prices because Apple no longer had the 22 incentive to reduce prices to attract these customers. Amiri Decl., Ex. 8 at p. 7.

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As shown below, plaintiffs offer no documentary evidence or testimony from percipient witnesses to establish any of the facts necessary to support this theory or to refute the record

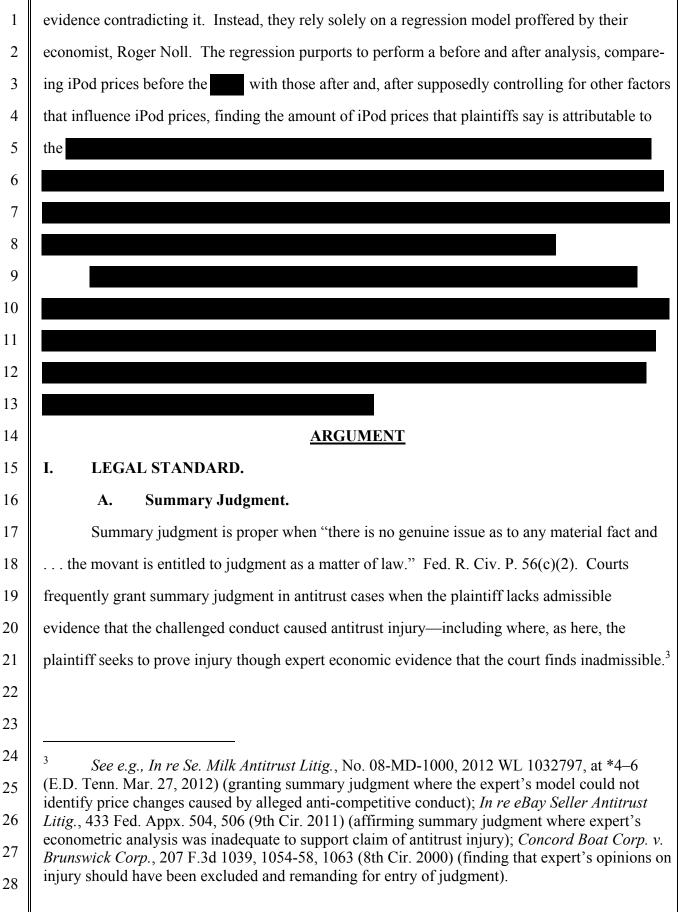
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In addition to iTunes 7.0, plaintiffs' experts also describe iTunes 7.4, an update released in
 September 2007, as preventing Harmony from working on iPods. But they do not present a
 separate impact or damages analysis related to that update. Instead, their position is that, because
 the separate impact or disabled Harmony as of September 2006, iTunes 7.4 had no additional
 adverse effect on iPod prices.

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1 2

B. Exclusion of Expert Testimony.

Rule 702 permits expert testimony that "will help the trier of fact to understand the 3 evidence or to determine a fact in issue" if the testimony is "based on sufficient facts or data," "is 4 the product of reliable principles and methods," and "the expert has reliably applied the principles and methods to the facts of the case." Fed. R. Evid. 702. As "gatekeeper," the Court must ensure 5 6 that expert testimony "rests on a reliable foundation and is relevant to the task at hand." Daubert 7 v. Merrell Dow Pharms., Inc., 509 U.S. 579, 597 (1993). "Maintaining Daubert's standards is 8 particularly important considering the aura of authority experts often exude, which can lead juries 9 to give more weight to their testimony." Mukhtar v. Cal. State Univ., Hayward, 299 F.3d 1053, 10 1063-64 (9th Cir. 2002) amended, 319 F.3d 1073 (9th Cir. 2003). Litigants should not be 11 permitted to get to trial simply by attempting to "dazzle the courtroom with graphs and tables." In re Graphics Processing Units Antitrust Litig., 253 F.R.D. 478, 491-92 (N.D. Cal. 2008). 12

Reliable expert testimony is grounded "in the methods and procedures of science," not
"subjective belief or unsupported speculation." *Daubert*, 509 U.S. at 590. While the focus is on
the expert's underlying methodology, "conclusions and methodology are not entirely distinct
from one another," and "[a] court may conclude that there is simply too great an analytical gap
between the data and the opinion proffered." *GE v. Joiner*, 522 U.S. 136, 146 (1997). Relevant
expert testimony "'fit[s]" the facts of the case and "logically advances a material aspect of the
proposing party's case." *Daubert v. Merrell Dow Pharms.*, 43 F.3d 1311, 1315 (9th Cir. 1995).

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II. SUMMARY JUDGMENT SHOULD BE GRANTED BECAUSE PLAINTIFFS CANNOT SHOW ANY GENUINE FACTUAL ISSUE REGARDING IMPACT OR DAMAGES.

"[P]roof of injury is an essential substantive element" of an antitrust claim. *Kline v. Coldwell, Banker & Co.*, 508 F.2d 226, 233 (9th Cir. 1974); *Rebel Oil Co. v. Atl. Richfield Co.*,
51 F.3d 1421, 1433 (9th Cir. 1995) ("causal antitrust injury[] is an element of all antitrust suits").
Lack of evidence of injury caused by the challenged conduct is "fatal to the merits of any antitrust
claim." *Argus Inc. v. Eastman Kodak Co.*, 801 F.2d 38, 41 (2d Cir. 1986). That is the situation
here. Plaintiffs' claim of impact is unsupported by any record facts.

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1	For the alleged impact to have occurred, RealNetworks must have been selling Harmony
2	music to iPod owners (or potential iPod purchasers) in sufficient quantities in September 2006
3	that a drop in those sales would have affected iPod demand so much that Apple would raise iPod
4	prices. That, in turn, requires that there were consumers who, because of the update, became
5	either (1) locked in by their increased iTS purchases and thus forced to buy an iPod when they
6	otherwise would have bought a competing player, or (2) locked out by their Harmony purchases
7	and thus prevented from purchasing any iPod with on it. And the claim requires that Apple
8	became aware of these customers (and how many there were) and took them into account in
9	setting its prices <i>before</i> it sold any iPods with the on it and <i>before</i> it could possibly know
10	whether would impact demand. Not only do the undisputed facts fail to support any of the
11	links in this tortured chain of proof, but the record is fundamentally at odds with it.
12	<i>First</i> , Harmony was insignificant in 2006. Its share of music sales was less than 3% when
13	Apple released iTunes 7.0. Id., Ex. 4, ¶ 27, n.40.
14	
	But the proof
15	But the proof plaintiffs must adduce is what Harmony sales were <i>in 2006</i> . Earlier in the case, Dr. Noll admitted
15 16	
15 16 17	plaintiffs must adduce is what Harmony sales were <i>in 2006</i> . Earlier in the case, Dr. Noll admitted
15 16 17 18	plaintiffs must adduce is what Harmony sales were <i>in 2006</i> . Earlier in the case, Dr. Noll admitted that he would not expect many consumers to be using Harmony in 2005 or 2006 because it had
15 16 17 18 19	plaintiffs must adduce is what Harmony sales were <i>in 2006</i> . Earlier in the case, Dr. Noll admitted that he would not expect many consumers to be using Harmony in 2005 or 2006 because it had already been lawfully disabled by iTunes 4.7 and many consumers likely permanently abandoned
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 15 16 17 18 19 20 21 	plaintiffs must adduce is what Harmony sales were <i>in 2006</i> . Earlier in the case, Dr. Noll admitted that he would not expect many consumers to be using Harmony in 2005 or 2006 because it had already been lawfully disabled by iTunes 4.7 and many consumers likely permanently abandoned it at that point. <i>Id.</i> , Ex. 9 at 147:20-148:5. And the best Dr. Noll can say now is that Harmony's share of the market in 2006 was less than 5%—"I don't remember the exact number. I know that
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iPod users or potential users were buying Harmony music, let alone enough of them to affect iPod demand. As Dr. Noll admitted: "Q: Do you have any information or any estimate on how many iPod users bought music from RealNetworks? ... A: No." *Id.* at 116:18-23.

4 *Third*, plaintiffs have no proof of the number of people who became locked in or locked 5 . It is not enough merely that a Harmony purchaser owned an iPod or out as a result of the 6 was a potential iPod purchaser. Under Dr. Noll's lock-in theory, if that purchaser already owned 7 a large iTS music library that he or she wanted to continue to play on a portable device, the 8 purchaser would already be locked in by that library to buying iPods regardless of any new 9 Harmony purchases. Similarly, any lock-in from increased iTS purchases would be irrelevant for 10 customers who would have bought an iPod regardless, simply because of its design, ease of use 11 and revolutionary features. As Dr. Noll admitted, plaintiffs' theory requires that there have been 12 consumers whose decision about whether to purchase an iPod was changed as a result of the

But Dr. Noll testified that he did not know how many people fell into that category: "We have no way of knowing that." *Id.* at 107:16-24.

15 Nor do plaintiffs otherwise offer any such evidence. Although the existence of such 16 customers is pivotal to their claim, plaintiffs have not conducted any consumer survey or other 17 investigation to try to identify these customers or determine how many might exist. Indeed, they 18 do not have evidence of, or testimony from, even a *single* customer (let alone enough customers 19 to affect prices) who says he or she (1) wanted to purchase a competing player rather than an 20 iPod, but (2) switched to buying music from iTS instead of RealNetworks as a result of the 21 update, and (3) thereafter bought enough additional iTS music that he or she was forced to buy an 22 iPod instead of a competing player. Nor can they identify any RealNetworks customers who 23 would have purchased an iPod but were locked out of doing so because of their Harmony 24 purchases. Even the named plaintiffs do not allege that they were locked in or out as a result of 25 . None of them asserts that he or she purchased or would have purchased music from 26 Harmony and either bought or did not buy an iPod as a result of not being able to play Harmony 27 music on that iPod.

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Fourth, despite extensive discovery related to Apple's pricing committee, plaintiffs

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1	cannot identify any evidence that Apple ever took into account the amount of sales from
2	RealNetworks or any other online store in setting iPod prices. Plaintiffs' theory is that Apple
3	increased its prices because the supposedly increased the inelasticity of demand for iPods.
4	See e.g., Amiri Decl, Ex. 8, p. 27.
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14	For prices to have been affected in the manner plaintiffs assert,
15	Apple not only would have had to take the into account but do so before it could have
16	possibly known what effect it would have, if any. Given the enormous volume of iPod sales at
17	the time, and all of the factors that influence prices, it is complete speculation, at best, to say that
18	the pricing committee's decision would have been influenced by the kind of unknown, miniscule,
19	and theoretical change in demand elasticity plaintiffs hypothesize.
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27	This
28	finding defies reality. Plaintiffs have no evidence that Apple ever priced its iPods in that fashion.

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Over the years, Apple has obviously experienced changes in demand for its iPods that are much greater than anything that could have resulted from Harmony being disabled. And yet it has consistently adhered to its practice of setting only aesthetic prices—and not making small incremental price changes in the manner a service station might change its gasoline prices. No basis exists for saying it would have abandoned that longstanding practice if only Harmony had continued operating.

In short, plaintiffs' claim of impact is unrooted in any real-world evidence. Plaintiffs have
no documentary or percipient witness testimony to show even the most basic facts necessary for
their claim to be valid. This case has been pending for eight years. It has been over seven years
since Apple issued the challenged updates. If there were any evidence supporting their
implausible theory, Plaintiffs have had full opportunity to gather it. Their complete failure of
proof requires that summary judgment be granted.

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III. DR. NOLL'S REGRESSION MODEL IS INADMISSIBLE AND DOES NOT

RAISE A GENUINE FACTUAL ISSUE REGARDING IMPACT OR DAMAGES.

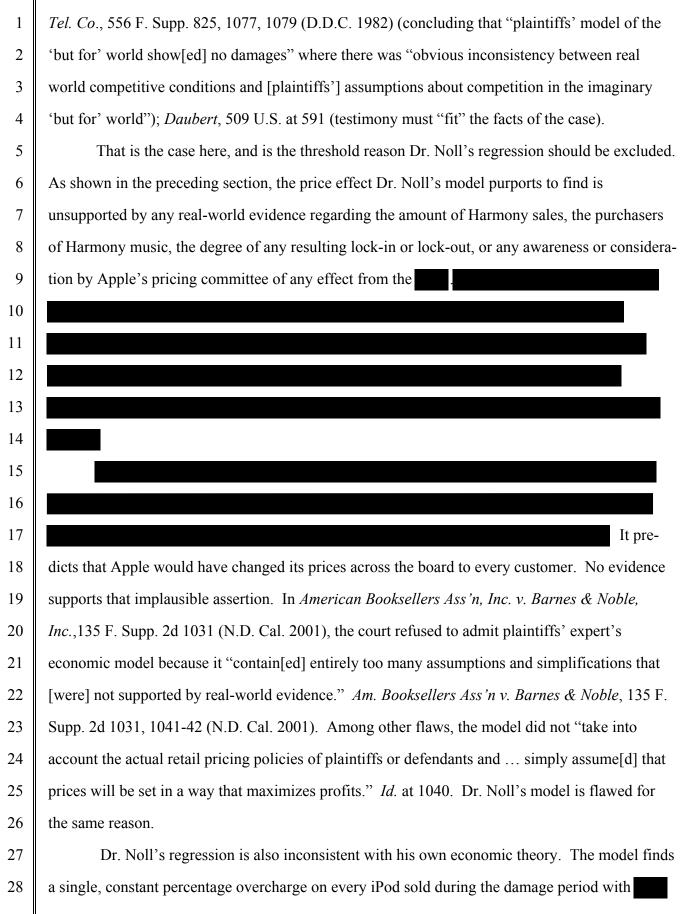
With no direct evidence supporting their claim of impact on prices, plaintiffs rely on a regression model to try to estimate both impact and the amount of damages. But that model does not cure plaintiffs' failure of proof. It rests on unsupported assumptions and reaches results that conflict with real-world evidence. And it is improperly engineered through selective choice of variables and manipulation of data to misleadingly create the appearance of an impact where none exists. It is precisely the kind of "quite misleading" expert evidence that *Daubert* warns should not be given to the jury. *Daubert*, 509 U.S. at 595.

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A. Dr. Noll's Regression Is Inadmissible Because It Does Not "Fit" The Facts Of The Case Or The Economics Of Plaintiffs' Own Theory.

Damage models that are premised on unsupported assumptions or assumptions that are at odds with the facts of the case or with plaintiffs' own theory are inadmissible. *See Concord Boat*, 207 F.3d at 1055-57 (expert's economic model "should have been excluded" where it "construct[ed] a hypothetical market which was not grounded in the economic reality of the stern drive engine market, for it ignored inconvenient evidence"); *So. P. Commc 'ns Co. v. Am. Tel.* &

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1 Amiri Decl., Ex. 8 at Exs. 5-6. If his theory were correct, however, the lock-in would have 2 progressively increased during the damage period as consumers purchased more iTS music. 3 Dr. Noll offers no coherent theory how the alleged overcharge amount could possibly remain 4 constant in these circumstances. In his rebuttal report, Dr. Noll suggests that lock-out from the 5 would affect iPod prices immediately. Id. at p. 27. Even if that were true, however, Dr. 6 Noll continues to assert that other customers would be locked in to buying iPods, that the extent 7 of lock-in would increase over time, and that the effect of lock-in is to "reduce[] the intensity of 8 price competition among" music players. *Id.* at n.7. He does not explain how, under these 9 circumstances, the price effect he postulates would remain constant over the entire two-year 10 damage period. Id., Ex. 11 at 85:11-85:24.

Because it rests on unsupported assumptions that conflict with the real world, Dr. Noll's
regression must be excluded. *See McGlinchy v. Shell Chem. Co.*, 845 F.2d 802, 807 (9th Cir.
1988) (affirming exclusion of damages study that rested on "unsupported assumptions"); *El Aguila Food Prods., Inc. v. Gruma Corp.*, 301 F. Supp. 2d 612, 625 (S.D. Tex. 2003) *aff'd*, 131
F. App'x 450 (5th Cir. 2005) (excluding damages model that "ignore[d] market realities").

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В.

The Regression Does Not Properly Account For the Relevant Factors.

A valid regression must account for the factors that may influence the characteristic being measured—here, the price of iPods. Failure to do so can bias the results, by attributing an effect to one event or characteristic that actually belongs to another. Dr. Noll's regression fails to satisfy this basic requirement in at least three separate respects, each of which independently requires that his testimony be excluded.

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1. The regression does not properly account for the lawful effect of iTunes 4.7 and thus uses the wrong "but-for" world.

Dr. Noll's regression includes variables for events that he contends may have affected iPod prices. One of these variables is his iTunes 7.0 variable, which he claims measures the effect of Harmony being disabled in 2006. Other variables include such things as the opening of the iTS in April 2003, the original Harmony launch in July 2004, the release of iTunes 4.7 in October 2004, and the record labels' elimination of the DRM requirement for Apple's compete-

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1 tors in early 2008. Dr. Noll includes these other variables because, if plaintiffs' theory were 2 valid, he believes these events would be expected to affect iPod prices in the same manner 3 plaintiffs say the did. For each of these variables except the variable for the release of 4 iTunes 4.7 (which he calls "Harmony Blocked"), Dr. Noll turns the variable "on" (*i.e.*, sets its 5 value to 1 in the equation) on the date of the event and leaves it on for the rest of the class period. Dr. Noll treats iTunes 4.7 differently. In his initial report, Dr. Noll turned the iTunes 4.7 6 7 variable off as of September 12, 2006, the day the was released. Amiri Decl., Ex. 4 at ¶ 90. 8 Dr. Noll admits that a variable should be included if it represents a factor that might plausibly 9 affect prices. ECF No. 685, p. 9. Thus, by turning the iTunes 4.7 variable off, his regression 10 treated iTunes 4.7 as having no plausible effect on prices after the was released—and thus 11 treats the but-for world as one in which iTunes 4.7 did not exist. Amiri Decl., Ex. 4 at ¶¶ 94-95. 12 That treatment was inconsistent with plaintiffs' theory and with Dr. Noll's own admis-13 sions. Plaintiffs' theory is that, by disabling Harmony in 2004 and allegedly increasing iTS sales, 14 iTunes 4.7 caused iPod prices to increase (albeit lawfully given this Court's ruling that iTunes 4.7 15 was lawful (ECF No. 627, p. 11)). And Dr. Noll admitted that, under plaintiffs' theory, this 16 alleged effect could persist even after the was issued because the initial shutdown of 17 Harmony in 2004 could have caused consumers to permanently abandon Harmony. Amiri Decl. 18 Ex. 10 at 68:2-70:16 ("Q: And could that consumer expectation continue even after 7.0 is issued? 19 A: Exactly, it could."). For such consumers, it was iTunes 4.7) that resulted in 20 fewer purchases from RealNetworks and whatever effect that may have had on iPod prices. By 21 nonetheless turning off the iTunes 4.7 variable when he turned on the iTunes 7.0 variable, Dr. Noll caused the iTunes 7.0 variable to capture this continuing effect from iTunes 4.7. See id., Ex. 22 3 at ¶102; Ex. 4 at ¶¶ 92-93. 23 24 In his rebuttal report, Noll responds by revising his regression to leave on the iTunes 4.7 25 26 27 28 This, however, does not address the problem, Motion for Summary Judgment and

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because the persistence effect he admits could have existed applies to all iPods, not just those 2 unaffected by 7.0. As discussed, wholly apart from the solution, some customers may have been 3 permanently dissuaded from using Harmony once it was disabled by iTunes 4.7, as Dr. Noll has 4 admitted. This effect does not depend on which iPod the customer owns or whether the was 5 implemented on it. It is an effect on *consumers*, resulting from the earlier disabling of Harmony, 6 not from the iPod they later purchase.

7 In his latest model, Dr. Noll then compounds this error by not turning on the iTunes 7.0 8 variable for those iPod models on which was not implemented. By doing so, he treats 9 as not having any possible effect on demand for those models. But that treatment is 10 contrary to Dr. Noll's own assertion that "[t]he effect on prices [from iTunes 7.0] is not 11 necessarily limited to just the products that were sold that had 7.0 in them." Id., Ex. 10 at 46:2-4. 12 According to Dr. Noll, that is because disabling Harmony in 2006 was a "market-defining event." 13 *Id.*, Ex. 10 at 48:24-49:17. Thus, contrary to what he does in current model, Dr. Noll previously 14 admitted that turning on the iTunes 7.0 variable for all models is "the right way to do it." *Id.*, Ex. 15 10 at 49:14.

16 The effect of these errors is to find an impact where none exists. Fixing these errors—by 17 leaving on the iTunes 4.7 variable throughout the period and by turning on the iTunes 7.0 variable 18 as to all models—reduces the claimed damages to zero. Id., Ex. 14 at ¶7, ¶15 & Ex. JT-2a JT2b. 19 Damages for resellers are likewise reduced to zero even if only the latter error is corrected—*i.e.*, 20 the iTunes 7.0 variable is turned for all models, without changing his treatment of the iTunes 4.7 21 variable. Id.

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The regression does not account for the impact of the unchallenged aspects of

24 Dr. Noll's regression includes a single "iTunes 7.0" variable that he asserts measures the 25 alleged unlawful overcharge in iPod prices. Id., Ex. 3 at p. 81; see also Ex. 3 at ¶ 80. However, 26 27 aspects of iTunes 7.0 that are much more likely to affect demand for iPods, "including new album 28 covers views of music, TV shows, movies with better browsing capability and videos with 'near

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DVD' quality." Id., Ex. 3 at ¶ 113; see also Ex. 4 at ¶ 110. Reflecting all of these valueenhancing features, Apple described iTunes 7.0 at the time as "the most significant enhancement to the world's most popular music jukebox and online music and video store since it debuted in 2001." Id., Ex. 12. Dr. Noll's regression must control for these other, unchallenged aspects of iTunes 7.0 to ensure that the coefficient on the iTunes 7.0 variable captures **only** the price impact of the challenged conduct. *Id.*, Ex. 3 at ¶¶ 80, 108; Ex. 4 at ¶ 48.

7 Dr. Noll does not deny the need to control for the other, unchallenged aspects of iTunes 8 7.0—and he admits that failing to control for them would result in erroneously attributing to the 9 a price effect caused by something else. Id., Ex. 10 at 34:19-25, 35:2-5. He asserts, 10 however, that all of the attributes of iTunes 7.0 that might affect iPod prices are captured in his 11 other variables. When pressed to identify those other variables, he pointed to the variables for the 12 type of iPod (classic, mini, nano and shuffle) and his variables for storage capacity and photo and 13 video capability. Id. at 31:11-32:21.

14 This is insufficient. Dr. Noll cannot explain how any of these variables would capture the 15 effect of the other, unchallenged aspects of iTunes 7.0. The fact that a given iPod is a nano or a 16 classic does not shed any light on whether the ability to browse by album cover increased the 17 value of that iPod. Nor does the iPod's storage capacity answer that question. Similarly, ability 18 to display a video is not the same as being able to play, for the first time, a full-length movie.

19 Because iTunes 7.0 included "unique attributes" that Dr. Noll's model ignores, the model 20 cannot accurately determine whether "any price-elevating impact of iTunes 7—assuming there 21 even was one—was due to the as opposed to other value-enhancing features of iTunes 7." 22 Amiri Decl., Ex. 3 at ¶ 113. Expert damages calculations that fail to "segregate the losses, if any, caused by acts which were not antitrust violations from those that were" will not assist the trier of 23 fact and must be excluded.⁴ That is the situation here. 24

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4 City of Vernon v. S. Cal. Edison Co., 955 F.2d 1361, 1372-73 (9th Cir. 1992) (damages 26 study that treated lawful acts as "contribut[ing] to the damage figure" was not competent evidence of damages); see also Concord Boat, 207 F.3d at 1056-57 (expert opinion as to the 27 alleged overcharge "should not have been admitted because it ... did not separate lawful from unlawful conduct"); In re Se. Milk Antitrust Litig., 2012 WL 1032797, at *5-6 (expert damages 28

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3. The regression does not account for major product characteristics and other factors relevant to price.

Dr. Noll recognizes that product features are important determinants of price, and thus his
regression includes variables for a few such characteristics—*e.g.*, storage capacity, photo and
video capability, and size (cubic inches). *Id.*, Ex. 10 at 30:22-32:21 & Ex. 7 at Ex. 13. But he
omits numerous other characteristics that are equally (if not more) likely to affect price, including
battery life, display size, weight, screen resolution, and type of connector (USB or FireWire). *Id.*,
Ex. 3 at ¶ 110; *see also* Ex. 4 at ¶ 111, Ex. 10.

9 "Omitted variable bias arises when important explanatory variables that have been 10 omitted from the regression model are correlated with included explanatory variables.... This 11 misspecification will bias the resulting coefficient estimates, and make these estimates unreliable 12 for damage estimation." American Bar Association, Proving Antitrust Damages: Legal and 13 *Economic Issues* 148 (2d ed. 2010). Thus, courts have repeatedly recognized that failing to control for major variables renders a regression unreliable and inadmissible.⁵ That is the 14 15 circumstance here. As Dr. Noll recognized by including some product characteristic variables in 16 his regression, product features are important to determining price—and there is no basis for 17 thinking that storage capacity (which he included) is relevant while battery life, screen size, 18 screen resolution, weight and type of connector (all of which he excluded) are irrelevant. As Dr. 19 Noll has admitted, a variable should be included if "prices plausibly could be affected by it." 20 model measuring price impact of lawful merger rather than price impact of the alleged conspiracy 21 could not establish antitrust injury). 5 22 *In re Live Concert Antitrust Litig.*, 863 F. Supp. 2d 966, 973-83 (C.D. Cal. 2012) (excluding expert regression that failed to account for major variables); In re REMEC Inc. Sec. 23 Litig., 702 F. Supp. 2d 1202, 1273-74 (S.D. Cal. 2010) (excluding regression that made "no attempt to account for other possible causes" of changes in stock price); In re Graphics 24 Processing Units, 253 F.R.D. at 496-97 (finding plaintiffs' econometric models to be "grossly" lacking" where they omitted "factors that would likely have an impact on prices); In re 25 Methionine Antitrust Litig., MDL No. 00-1311, 2003 U.S. Dist. LEXIS 14828, at *9-10 (N.D. 26 Cal. Aug. 22, 2003) (holding that failure to take into account variables that could affect price rendered analysis unreliable); Blomkest Fertilizer, Inc. v. Potash Corp. of Saskatchewan, 203 27 F.3d 1028, 1038 (8th Cir. 2000) (finding econometric model not to be probative where the model failed to take into account relevant events). 28

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ECF No. 685, p. 9. That standard is more than satisfied as to the omitted characteristics here.
 Not only are the attributes on their face just as likely (or more likely) to affect demand as the
 attributes Dr. Noll included,

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5 Moreover, under plaintiffs' theory, each of these characteristics would be 6 expected to be correlated with the iTunes 7.0 variable, as each would be expected to make iPods 7 more desirable and thus increase demand.

8 The relevance of these characteristics is confirmed by regressions run by Apple's experts, 9 which included variables for the excluded characteristics. When the proper but-for world is used, 10 controlling for even a few of the iPod features Dr. Noll omitted reduces the claimed damages to 11 zero. Amiri Decl., Ex. 14 at ¶ 6, ¶12-14, ¶¶16-22 & Ex. JT-1a, JT-1b. By failing to control for 12 the relevant product characteristics, Dr. Noll's regression erroneously attributes iPod price 13 changes to that actually are the result of the omitted variables, and "produce[s] an 14 overcharge where none exists." Id. ¶¶ 79-80; see also Amiri Decl. Ex. 4 at ¶ 110. The regression 15 is thus inadmissible. As the court recognized in excluding the regression model in *Freeland v*. AT&T Corp., 238 F.R.D. 130 (S.D.N.Y. 2006), "an unsupported assumption that changes in 16 17 quality would never affect . . . price is insufficient to justify its exclusion from the regression analysis, particularly in light of evidence to the contrary." Id. at 148. 18

19 In his rebuttal report, Dr. Noll does not dispute the need to control for product character-20 istics that could affect price. Nor does he deny that the product characteristics he omitted could 21 affect price. He argues instead that his other variables capture any effect from the omitted 22 features. Amiri Decl., Ex. 8 at pp. 8, 31. But he does not explain how, for example, a variable 23 for storage capacity (or video capability) would measure the impact of introducing batteries with 24 longer battery life. Or how a variable for the size of the iPod captures the value of enhanced 25 screen resolution. He suggests that his nano variable would capture the effect of any feature "that 26 is found only in an iPod nano." Id. at p. 31. But he does not assert that the features he has 27 excluded are unique to the nano or to any other specific iPod model. In fact, they are not. Battery 28 life, display size, weight, screen resolution, and type of connector (USB or FireWire) are not

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specific to any model – any more than are the storage capacity or video capability variables Dr.
 Noll opted to include in his model.

Like the expert in *Freeland*, Dr. Noll has "offered no empirical analysis to support his conclusion" that the features he has excluded are irrelevant to price, despite their obvious importance to inconsumers. 238 F.R.D. at 146. His regression is thus "so incomplete as to be inadmissible as irrelevant." *Id.* at 147 (quoting *Bazemore v. Friday*, 478 U.S. 385, 400 (1986)).

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C. The Regression Does Not Provide Statistically Significant Results.

8 Dr. Noll's regression is inadmissible for an additional, independent reason: his damages 9 estimates are not statistically significant. Dr. Noll asserts that his regression should be accepted 10 because the low standard errors on the coefficients he reports supposedly show that the 11 coefficients are statistically significant. Amiri Decl., Ex. 6 at p. 80. But he has vastly 12 underestimated the standard errors. When properly calculated, the standard errors show that the 13 coefficient for 7.0 is statistically *insignificant—i.e.*, no different from zero and thus meaningless 14 to show any impact on prices.⁶

15 As Dr. Noll explains, a fundamental assumption relied on in regression analysis is that the 16 errors or residuals (the portion of the price that cannot be explained by the explanatory variables) 17 are uncorrelated or independent of one another—*i.e.*, that "the magnitude of the error in one 18 observation does not reveal any information about the magnitude of the error in another observation." Id., Ex. 8 at pp. 36-38; Ex. 11 at 23:9-24:7; Ex. 4 at pp. 32-33. If the errors within 19 20 a group are correlated (not independent), they are said to be clustered and must be addressed by 21 standard correction methods. Id., Ex. 4 at pp. 34-35; Proving Antitrust Damages, p. 147 22 (allowing for clustering is "used generally in practice"). If no correction is made, the standard 23 errors will be miscalculated and will under- or over-estimate the model's precision. Amiri Decl.,

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<sup>Standard errors measure the precision with which the coefficients are estimated—the
confidence that the true value is near the estimated value. The smaller the standard error, the
more precise the results. Standard errors can be used to calculate a t-statistic, which reflects the
degree of confidence that the estimate for the coefficient did not arise by chance when the true
effect of the variable in question is actually zero. Amiri Decl., Ex. 3 at pp. 46-47; Ex. 4 at pp. 2223, 27-37.</sup>

1	Ex. 11 at 25:15-20; Ex. 4 at pp. 34-37; Ex. 3 at pp. 50-51. ⁷
2	Dr. Noll admits that there are standard procedures to test whether the errors in a regression
3	are correlated. Id., Ex. 14 24:9-14. But he did not employ any of those procedures, even after
4	Apple's experts explained that the errors in his regression are in fact correlated. <i>Id.</i> at 27:9-32:8,
5	45:23-46:9. Had he run such a test, he would have discovered that errors within certain groups or
6	clusters are highly correlated, revealing that the independence assumption is false. Id., Ex. 14,
7	¶ 10.
8	Correcting for this fundamental error renders Dr. Noll's estimated "overcharges"
9	statistically indistinguishable from zero. On his regression for reseller transactions, the t-statistic
10	for the iTunes 7.0 co-efficient goes from 37.599 to a corrected 0.577. Id., Ex. 14, at ¶ 9 & n.9 &
11	Exhs. JT-1a, JT-1b & App. D1a, Dib. And in the direct sales regression, it goes from 448.711 to
12	1.536 Id. T-statistics of less than 2 signify the result is not statistically significant. Id., Ex. 4 at
13	¶ 63. Because its results are not statistically significant, Dr. Noll's "model provides no reliable
14	evidence that the iTunes 7 update had any material effect on the prices of iPods." Id., Ex. 3 at ¶
15	99; see also Ex. 4 at ¶¶ 79-84.
16	IV. DR. NOLL'S RELEVANT MARKET OPINIONS SHOULD BE EXCLUDED AND
17	SUMMARY JUDGMENT GRANTED FOR FAILURE OF PROOF ON THAT
18	ISSUE.
19	To prove a monopolization claim, the plaintiff must define the relevant product market.
20	Spectrum Sports, Inc. v. McQuillan, 506 U.S. 447, 455-59 (1993). Doing so requires identifying
21	"the pool of goods or services that enjoy reasonable interchangeability of use and cross-elasticity
22	of demand." Oltz v. St. Peter's Cmty. Hosp., 861 F.2d 1440, 1446 (9th Cir. 1988). Dr. Noll
23	purports to define two relevant product markets: the device market, which he opines includes
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25	⁷ <i>Proving Antitrust Damages</i> , pp. 145-46 ("There can be substantial consequences from estimating the standard errors for the coefficient estimates as if the errors were uncorrelated when
26	they are in fact correlated. With positive correlation between the error terms, the incorrectly
27	estimated standard error generally will be biased downward, making the regression coefficients seem to be more precisely estimated than they really are. As a result, a statistical test on the

coefficients may yield what appears to be a statistically significant result but is not.").

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only portable digital media players; and the music market, which he opines consists solely of 2 digital audio files. Amiri Decl., Ex. 6 at pp. 23-42. This testimony should be excluded, because it is not the product of reliable economic principles and methods.

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4 Dr. Noll did not employ the economic methods courts have recognized as valid for 5 defining a relevant market. He admits that economists typically determine relevant markets by 6 estimating cross-elasticity of demand. *Id.* at pp. 23-24. But he did not do that. He similarly 7 alludes to the "hypothetical monopolist" test endorsed by the Department of Justice. But he did 8 not employ that method either. Nor did he conduct any other thorough quantitative analysis of 9 prices, costs or output of potential competing products. Like the expert excluded in Menasha 10 Corp. v. News Am. Mktg. In-Store, Inc., 354 F.3d 661, 664 (7th Cir. 2004), he "introduced no 11 econometric analysis of any kind" related to market definition. He asserts that economists rely on 12 surveys of buyers, or statements of executives in the industry. But he does not present any such 13 evidence.

14 Rather than relying on any accepted economic methods, Dr. Noll offers his own truncated 15 review of what he perceives to be the similarities or dissimilarities between certain products, with 16 an occasional citation to a news article or other report from the internet. He does not purport to 17 be applying any economic expertise in doing so. Nor does he profess to have any industry or 18 other experience that would make him an expert on what consumers consider to be substitutes for 19 digital music and music players. This portion of his report could have just as easily been written 20 by a non-expert lawyer or anyone else with the ability to run internet searches. It is not valid 21 expert opinion. See Live Concert, 863 F. Supp. 2d at 994 (excluding expert report purporting to define relevant product market where expert "purported to rely on 'industry information' ... [but] 22 did not utilize a reliable methodology for interpreting and applying this information").⁸ 23

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⁸ Brown Shoe Co. v. United States, 370 U.S. 294 (1962), held that "practical indicia" may 25 determine "[t]he boundaries of ... a submarket." Id. at 325. But the Ninth Circuit has never held 26 that the relevant product market can be defined "*exclusively* by reference to these 'practical indicia."" In re Live Concert, 863 F. Supp. 2d at 985-86; accord Reifert v. S. Cent. Wisc. MLS 27 Corp., 450 F.3d 312, 320 (7th Cir. 2006). And Dr. Noll did not in any event employ any economic expertise related to any practical indicia. 28

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1	In addition to not applying any relevant expertise, Dr. Noll's non-expert product review is
2	flawed. As to the player market, he refers only to CD players and cell phones, without discussing
3	any other potentially competing devices for playing digital music, such as notebook computers
4	and home stereo systems-products that Apple's witnesses testified they considered to be
5	competitive products. Amiri Decl., Ex. 13 at 48:4-10. Likewise, Dr. Noll does not address
6	whether customers might substitute free downloads from peer-to-peer file sharing sites for iTS
7	music, disregarding evidence that the availability of free downloads was a major challenge to the
8	success of paid music stores like iTS. Id., Ex. 3 at ¶ 125. Instead, Dr. Noll "focused on finding
9	the perfect substitute[s] for [iPods and iTMS music]," ignoring that some "flexible elastic
10	buyer[s]" will switch to "substitutes, even if the substitutes are imperfect." Va. Vermiculite Ltd.
11	v. W.R. Grace & CoConn., 98 F. Supp. 2d 729, 737 (W.D. Va. 2000) (excluding expert
12	testimony for failure to "thoroughly examine substitutes when defining the market"); Ky.
13	Speedway, LLC v. Nat'l. Assoc. of Stock Car Auto Racing, Inc., 588 F.3d 908, 916-17 (6th Cir.
14	2009) (affirming order striking expert's "report and deposition testimony because he had included
15	only Busch series and open-wheeled races as possible substitutes for attending live NASCAR
16	stock-car racing events or watching them on television" without considering "other sports-and
17	possibly other forms of entertainment-as substitutes").
18	To the extent Dr. Noll does address possible substitutes, he excludes them based on
19	improper considerations. For example,
20	• Dr. Noll assumes that cell phones must be able to download music over wireless carriers'
21	networks to be substitutes for iPods. Amiri Decl., Ex. 6 at pp. 29-31. But iPods never had
22	that capability during the class period. Id., Ex. 3 at ¶ 130. Only the iPod Touch could
23	download music at all, and only over a Wi-Fi connection, not a wireless network. Id.
24	• Dr. Noll excludes on-demand and non-interactive streaming music from the market
25	because those services were not fully available on mobile devices during the class period.
26	Id., Ex. 6 at pp. 33-39. But support for mobile devices is not relevant to consumers who
27	purchased music to play on other devices, and Dr. Noll presents no analysis as to the
28	volume of iTS sales for use on such other devices. Id., Ex. 3 at ¶ 126.

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- Dr. Noll opines that a streaming music service (like Pandora) is "most likely" not a substitute for iTS music because it is not fully customizable. *Id.*, Ex. 6 at p. 37. But he offers no data or reasoned analysis to explain why a service must be fully customizable before consumers will choose it over permanent downloads.
 - Dr. Noll offers only untested, subjective opinions for his conclusion that CDs are not close substitutes for downloads, (*see id.*, Ex. 6 at pp. 39-41),

9 Expert opinions based on untested assumptions and subjective opinions, as opposed to market data, are routinely excluded as inadmissible under *Daubert*.⁹ Even "reasonable" or 10 11 "intuitively obvious" presumptions cannot form the basis for expert opinions. See United Food Mart, Inc. v. Motiva Enters., LLC, 404 F. Supp. 2d 1344, 1349-50 (S.D. Fla. 2005) (expert 12 13 opinion based on "reasonable" assumption that gas stations located within two miles on one 14 another on the same road compete excluded because expert did not "test [it] by reference to 15 specific facts of this case"); SMS Sys. Maint. Servs., Inc. v. Digital Equip. Corp., 188 F.3d 11, 25 16 (1st Cir. 1999) (refusing to credit expert opinion based on an "intuitively obvious proposition" 17 and sources the expert "neither attaches nor discusses"). 18 In sum, Dr. Noll's proposed relevant product definitions must be excluded because they 19 are the product of untested, subjective opinions regarding customer preferences, as opposed to 20 any economic analysis of the markets, the interchangeability of products, or actual consumer 21 behavior. And, because—absent Dr. Noll's opinion—plaintiffs have no basis upon which to prove 22 a relevant market, summary judgment should be granted on this ground as well. In re Live *Concert*, 843 F. Supp. 2d at 1000 (granting summary judgment for lack of proof of relevant 23 24 market after excluding expert witness opinion); Va. Vermiculite, Ltd. v. W.R. Grace & Co.-Conn.,

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⁹ See In re Live Concert, 863 F. Supp. 2d at 994 (excluding expert's relevant market
 definition where expert "relied on his own subjective opinion in order to determine which
 performers qualify as 'rock' artists"); *McLaughlin Equip. Co., Inc. v. Servaas*, No. 98-127-C-T/K,
 2004 WL 1629603, at *6 (S.D. Ind. Feb. 18, 2004) (excluding expert's relevant market opinion
 where it was "based on insufficient data," including only one piece of market data).

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1	108 F. Supp. 2d 549, 576 (W.D. Va 2000) (same); Ky. Speedway, 588 F.3d at 919 (affirming
2	summary judgment after concluding that expert testimony on relevant market had been properly
3	excluded).
4	<u>CONCLUSION</u>
5	Dr. Noll's testimony regarding impact, damages and relevant market should be excluded
6	and summary judgment granted to Apple.
7	Dated: December 20, 2013 Respectfully submitted,
8	JONES DAY
9	
10	By: <u>/s/ Robert A. Mittelstaedt</u> Robert A. Mittelstaedt
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