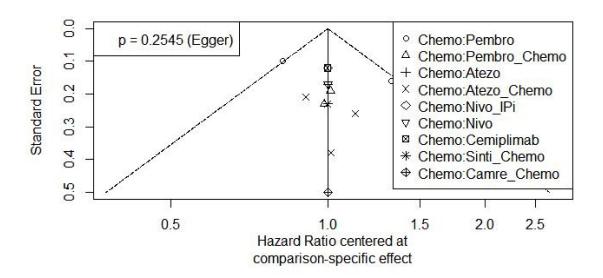


Supplementary Fig.1 The quality of included studies with the Cochrane Collaboration tool.



Supplementary Fig.2 Egger regression test with a funnel plot.

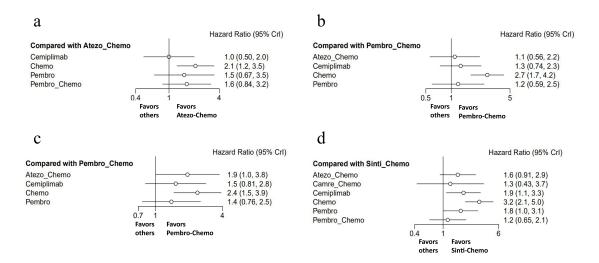
											a
		Chemo	0.90 (0.63-1.28)	0.77 (0.55-1.08)	0.76 (0.56-1.04)	0.70 (0.54-0.90)	0.67 (0.56-0.80)	0.65 (0.47-0.91)	0.60 (0.43-0.83)	0.59 (0.40-0.87)	0.57 (0.43-0.77)
Rank 1th	_ 	Rank 10 th	Nivo	0.86 (0.53-1.40)	0.85 (0.53-1.37)	0.78 (0.50-1.20)	0.75 (0.50-1.11)	0.73 (0.45-1.18)	0.67 (0.41-1.08)	0.66 (0.39-1.11)	0.64 (0.40-1.01)
Sinti- Chemo	Rank 2 th	L	Rank 9th	Durva-	0.99	0.90	0.87	0.84	0.77	0.76	0.74
0.85	Pembro-]	Kank 9	Treme	(0.72-1.36)	(0.60-1.37)	(0.60-1.26)	(0.53-1.35)	(0.49-1.24)	(0.46-1.27)	(0.48-1.15)
(0.50-1.45)	Chemo	Rank 3th	, '	Rank 8th	Durva	0.91	0.88	0.85	0.78	0.77	0.75
0.66 (0.39-1.14)	0.78 (0.52-1.18)	Atezo- Chemo	Rank 4th	Į	Durva	(0.61-1.37)	(0.61-1.25)	(0.54-1.34)	(0.50-1.23)	(0.47-1.27)	(0.49-1.15)
0.58	0.68	0.87]	Rank 7 th	Nivo-Ipi	0.96 (0.70-1.31)	0.93 (0.61-1.42)	0.86 (0.57-1.29)	0.84 (0.53-1.34)	0.82 (0.55-1.21)
(0.35-0.96)	(0.47-0.98)	(0.60-1.27)	Cemiplimab	Rank 5th		Rank 6th		0.97	0.89	0.88	0.85
0.50 (0.30-0.83)	0.59 (0.41-0.85)	0.76 (0.52-1.1)	0.87 (0.62-1.21)	Nivo-IPi	Rank 6th	144.11. V	Pembro	(0.67-1.42)	(0.62-1.29)	(0.57-1.35)	(0.61-1.20)
0.49	0.58	0.74	0.85	0.98	Atezo	Rank 7th	Rank 5th	Atezo- Chemo	0.92 (0.58-1.46)	0.90 (0.54-1.51)	0.88 (0.56-1.37)
(0.28-0.86)	(0.37-0.9)	(0.47-1.16)	(0.57-1.28)	(0.65-1.47)		Kank /**		D 1.46	Pembro-	0.99	0.96
0.44 (0.27-0.71)	0.52 (0.37-0.72)	0.66 (0.47-0.92)	0.76 (0.57-1.01)	0.87 (0.66-1.16)	0.89 (0.61-1.29)	Pembro	Rank 8th	Rank 4th	Chemo	(0.59-1.64)	(0.62-1.48)
0.80 (0.27-2.34)	0.94 (0.34-2.60)	1.20 (0.43-3.34)	1.38 (0.50-3.79)	1.59 (0.58-4.35)	1.62 (0.57-4.58)	1.82 (0.67-4.92)	Camre- Chemo	Rank 9th	Rank 3th	Atezo	0.97 (0.60-1.58)
0.31 (0.20-0.49)	0.36 (0.27-0.49)	0.47 (0.35-0.63)	0.54 (0.42-0.68)	0.62 (0.49-0.78)	0.63 (0.45-0.88)	0.71 (0.60-0.84)	0.39 (0.15-1.04)	Chemo	Rank 10 th	Rank 2 th	Cemiplimab
0.29 (0.17-0.51)	0.34 (0.22-0.53)	0.44 (0.28-0.68)	0.50 (0.33-0.75)	0.58 (0.38-0.87)	0.59 (0.37-0.94)	0.66 (0.45-0.96)	0.36 (0.13-1.03)	0.93 (0.67-1.30)	Nivo		Rank 1 th

b

																C
			Nivo		1.23 70-2.20)	(0.	1.80 .90-3.64)	(0.	1.92 .85-4.39)	(1	1.97 1.05-3.73)	(3.12 1.59-6.26)	3.72 (1.50-9.38)	4.14 (1.74-10.0)	5.17 (2.49-10.9)
Rank 1th	Rank 2th	_	Rank 9tt	1 0	hemo	(0.	1.46 97-2.19)	(0.	1.56 .87-2.82)	(1	1.60 .21-2.11)	(1	2.53 1.74-3.72)	3.01 (1.49-6.23)	3.35 (1.75-6.55)	4.19 (2.64-6.74)
1.45 (0.93-2.27)	Atezo- Chemo	Rank 3th	h	Ra	ınk 8 th	N	livo-Ipi	(0.	1.07 .52-2.19)	(0	1.10 .67-1.78)	(1	1.74 1.00-3.03)	2.06 (0.92-4.74)	2.30 (1.07-5.02)	2.87 (1.55-5.35)
1.96 (1.22-3.17)	1.35 (0.98-1.86)	Pembro Chemo		nk 4 th		Ra	ınk 7 th		Atezo	(0	1.02 (.53-1.96)	((1.63).81-3.26)	1.93 (0.77-4.92)	2.15 (0.89-5.26)	2.69 (1.27-5.72)
2.01 (1.22-3.31)	1.38 (0.97-1.96)	1.02 (0.69-1.5		urva- reme	Rank 5th	h		R	ank 6th	1	Pembro	(1	1.59 1.00-2.54)	1.88 (0.88-4.09)	2.10 (1.03-4.32)	2.62 (1.53-4.55)
2.19 (1.22-3.94)	1.51 (0.94-2.41)	1.12 (0.68-1.8		1.09 55-1.84)	Sinti- Chem		Rank 6t	h		R	Rank 5th	Ce	emiplimab	1.19 (0.53-2.69)	1.32 (0.62-2.85)	1.65 (0.91-3.03)
2.46 (1.66-3.7)	1.70 (1.40-2.06)	1.26 (0.97-1.6		1.23 92-1.65)	1.13 (0.73-1.7	73)	Chemo	0	Rank 7	th		F	Rank 4 th	Atezo- Chemo	1.11 (0.42-2.96)	1.39 (0.58-3.26)
2.84 (1.77-4.55)	1.95 (1.43-2.67)	1.45 (1.01-2.0		1.41 96-2.07)	1.30 (0.79-2.	13)	1.15 (0.9-1.4	7)	Nivo-II	Pi .	Rank 8tt	1		Rank 3th	Sinti-Chemo	1.25 (0.56-2.80)
3.11 (1.89-5.14)	2.14 (1.51-3.05)	1.59 (1.07-2.3		1.55 16-2.07)	1.42 (0.84-2.3	39)	1.26 (0.94-1.6	59)	1.10 (0.75-1.6	1)	Durva		Rank 9th	_	Rank 2th	Pembro- Chemo
3.94 (2.39-6.51)	2.71 (1.89-3.88)	2.01 (1.35-2.9		1.96 29-2.99)	1.80 (1.06-3.0	04)	1.60 (1.18-2.1	16)	1.39 (0.94-2.0	5)	1.27 (0.83-1.9	3)	Cemiplima	Bank 10 ^{tt}	<u>. </u>	Rank 1th
6.29 (3.71-10.7)	4.34 (2.92-6.46)	3.21 (2.09-4.9		3.14)0-4.95)	2.88 (1.66-5.0	00)	2.55 (1.81-3.6	52)	2.22 (1.45-3.4	0)	2.02 (1.29-3.2)	0)	1.60 (1.01-2.54)	Atezo	Rank 11th	_
7.91 (5.00-12.6)	5.45 (4.06-7.36)	4.03 (2.86-5.7		3.94 72-5.72)	3.61 (2.23-5.8	88)	3.21 (2.56-4.0)5)	2.79 (2.00-3.9	1)	2.55 (1.76-3.7	1)	2.01 (1.38-2.95)	1.26 (0.83-1.90) Pembro	Rank 12th
11.55 (6.59-20.5)	7.96 (5.14-12.5)	5.88 (3.68-9.5		5.75 53-9.47)	5.28 (2.95-9.4	49)	4.69 (3.16-7.0	(3)	4.07 (2.56-6.5	5)	3.72 (2.27-6.1)	3)	2.94 (1.79-4.86)	1.84 (1.08-3.12	1.46 (0.92-2.32)	Nivo

d

Supplementary Fig.3 Network meta-analysis for advanced non-small cell lung cancer patients with PD-L1 ≥50% (95% CI and p-values are shown): (A) Hazard Ratio for overall survival; (B) Hazard Ratio for progression free survival; (C) Response Ratio for objective response rate; (D) Risk Ratio for TRAEs of grades 3-5.



Supplementary Fig.4 Forest plots of pairwise comparisons for subgroup: (A) Overall survival of squamous NSCLC; (B) Progression free survival of squamous NSCLC; (C) Overall survival of nonsquamous NSCLC; (D) Progression free survival of nonsquamous NSCLC.

Supplementary Table 1 Baseline Characteristics of Trials Included in the Network Meta-analysis

	keynote024	keynote042	keynote407	keynote189	IMpower110	IMpower130	IMpower131	
Characteristics	n=154/151 Pembro	n=637/637 Pembro	n=278/281 Pembro-Chemo	n=410/206 Pembro-Chemo	n=277/277 Atezo	n=451/228 Atezo-Chemo	n=343/340 Atezo-Chemo	
DDI 1	/ Chemo	/ Chemo	/ Chemo	/ Chemo	/ Chemo	/ Chemo	/ Chemo	
PDL1 expression	, ,							
<1%	0% / 0%	0% / 0%	34% / 35%	31% / 31%	0% / 0%	52% / 53%	46% / 50%	
1-49%	0% / 0%	53% / 53%	37% / 37%	31% / 28%	61% / 65%	28% / 29%	40% / 37%	
≥50%	100% / 100%	47% / 47%	26% / 26%	32% / 34%	39% / 35%	20% / 18%	14% / 13%	
Gender (%)								
Male	60% / 63%	71% / 71%	79% / 84%	62% / 53%	71% / 70%	59% / 59%	82% / 82%	
Female	40% / 37%	29% / 29%	21% / 16%	38% / 47%	29% / 30%	41% / 41%	18% / 18%	
Age								
Median (years)	64.5 / 66	63 / 64	65 / 65	65 / 64	64 / 65	64 / 65	65 / 65	
<65 yr (%)	NR	56% / 55%	46% / 45%	48% / 56%	NR	50% / 50%	50% / 46%	
Smoking status (%)							
Current or former	97% / 87%	78% / 78%	92% / 93%	88% / 88%	87% / 87%	89% / 93%	91% / 93%	
Never	3% / 13%	22% / 22%	8% / 7%	12% / 12%	13% / 13%	11% / 7%	9% / 7%	
ECOG performa	nce-status score (%	(a)						
0	35% / 35%	31% / 30%	26% / 32%	45% / 39%	35% / 37%	42% / 40%	34% / 32%	
≥1	65% / 65%	69% / 70%	74% / 68%	55% / 61%	65% / 63%	58% / 60%	66% / 68%	
Region of enrolln	nent (%)							
East Asia	14% / 13%	29% / 29%	19% / 19%	1% / 3%	16% / 11%	3% / 1%	12% / 11%	
Non-East Asia	86% / 87%	71% / 71%	81% / 81%	99% / 97%	84% / 89%	97% / 99%	88% / 89%	
Brain metastases		71707 7170	01707 0170	,,,,,,	0.1707.0570	,,,,,,,,,,,	00707 0570	
Diam metastases		50/ / 50/	5 07 7007	100//150/	.v.) ID	
	18% / 10%	5% / 5%	7% / 9%	18% / 17%	NR	NR	NR	
Baseline Charact	teristics of Trials In		work Meta-analysis CheckMate		ELEBOWER			
Characteristics	IMpower132 n=292/286	n=292/286		MYSTIC STUDY n=372/374/372	EMPOWER- Lung01 n=283/280	ORIENT 11 n=266/131	CAMEL n=205/207	
	Atezo-Chemo / Chemo	Nivo-Ipi / Chemo	Nivo / Chemo	Durva-Treme/ Durva / Chemo	Cemiplimab / Chemo	Sinti-Chemo / Chemo	Camre-Chemo / Chemo	
PDL1 expression								
<1%	50% / 45%	32% / 32%	0% / 0%	20%/25%/22%	0% / 0%	32% / 34%	24% / 33%	
1-49%	36% / 43%	33% / 35%	68% / 53%	51%/43%/49%	0% / 0%	28% / 20%	53% / 47%	
≥50%	14% / 12%	35% / 43%	32% / 47%	29%/32%/29%	100% / 100%	40% / 46%	15% / 10%	
Gender (%)								
Male	66% / 67%	67% / 66%	68% / 56%	72%/68%/67%	88% / 83%	77% / 76%	71% / 72%	
Female	34% / 33%	33% / 34%	32% / 45%	28%/32%/33%	12% / 17%	23% / 24%	29% / 28%	
Age						- · - · - · / ·	2.2.2070	
	64 / 63	64 / 64	63/65	66 / 65 / 64	63 / 64	61 / 61	59 / 61	
Median (years)			03/ 03 NR	00 / 03 / 04 NR		61 / 61 NR		
<65 yr (%)	52% / 59%	53% / 52%	NK	INK	55% / 52%	INK	78% / 74%	
Smoking status (Current or	%)							
former	87% / 89%	85% / 86%	89% / 89%	85%/85%/86%	100% / 100%	64% / 66%	62% / 63%	

ECOG performance-status score (%)

0	43% / 40%	35% / 33%	31% / 34%	42%/37%/43%	27% / 27%	29% / 26%	23% / 17%
≥1	57% / 60%	65% / 67%	69% / 66%	58%/63%/57%	73% / 73%	71% / 74%	77% / 83%
Region of enrollm	ent (%)						
East Asia	24% / 23%	NR	NR	32%/33%/32%	11% / 10%	100% / 100%	100% / 100%
Non-East Asia	76% / 77%	NR	NR	68%/67%/68%	89% / 90%	0% / 0%	0% / 0%
Brain metastases							
	NR	NR	12% / 13%	NR	12% / 12%	14% / 17%	5% / 2%

Abbreviations: Pembro, Pembrolizumab; Chemo, Chemotherapy; Pembro-Chemo, Pembrolizumab plus Chemotherapy; Atezo, Atezolizumab; Atezo-Chemo, Atezolizumab plus Chemotherapy; Nivo-Ipi, Ipilimumab and Nivolumab; Nivo, Nivolumab; Durva-Treme, Durvalumab plus Tremelimumab; Durva, Durvalumab; Sinti-Chemo, Sintilimab plus Chemotherapy; Camre-Chemo, Camrelizumab plus Chemotherapy; NR, not reported.