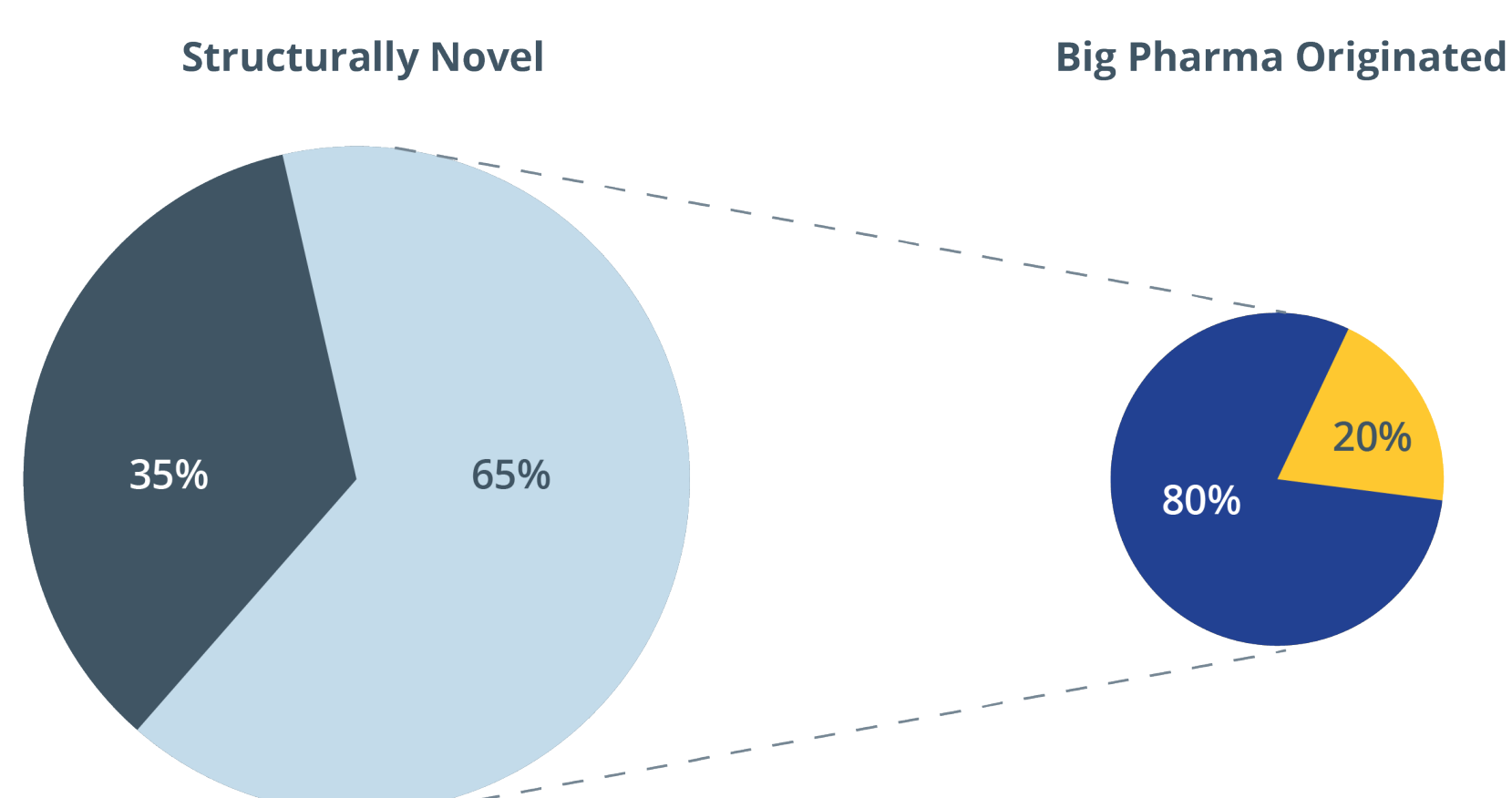
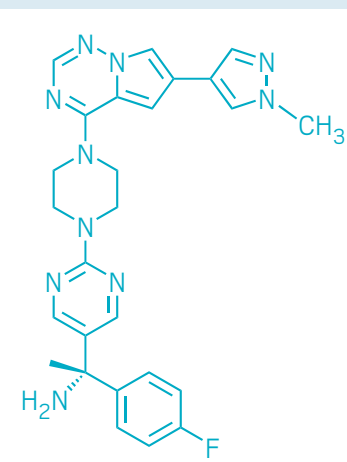


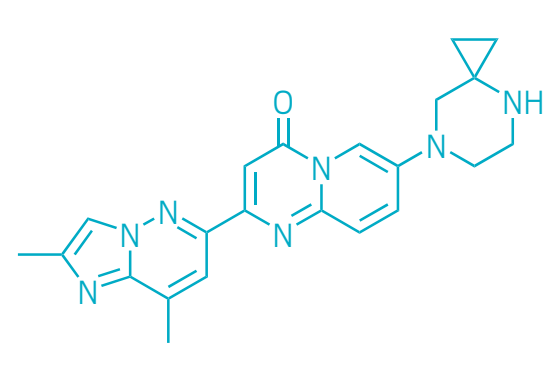
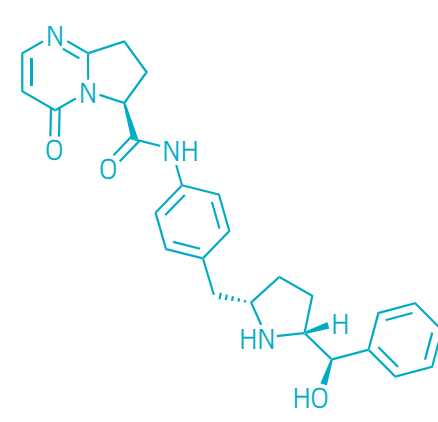
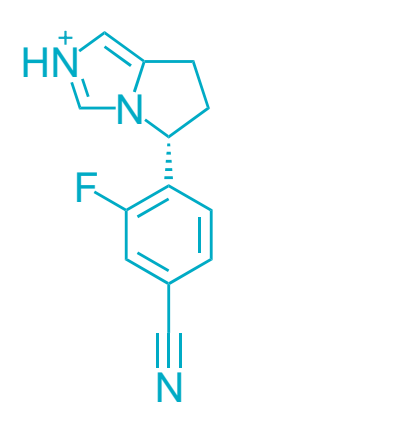
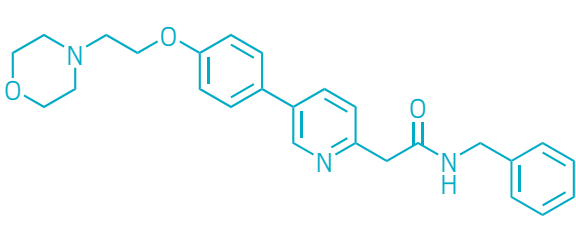
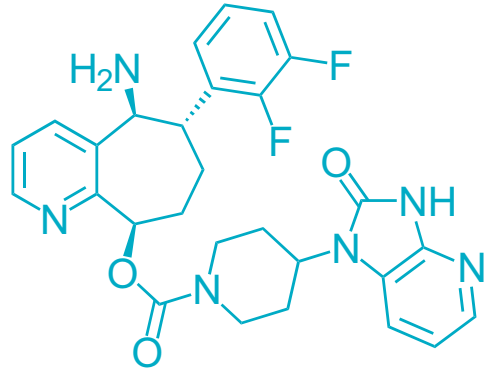
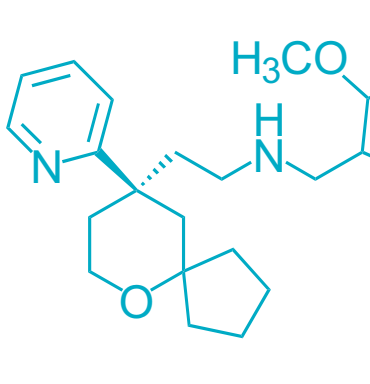
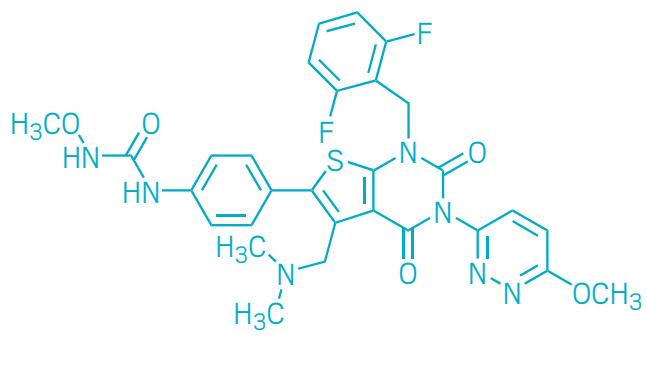
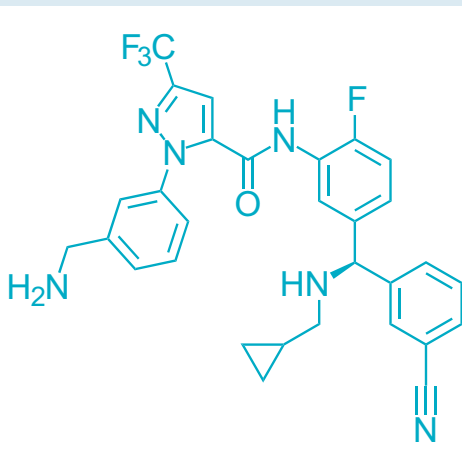
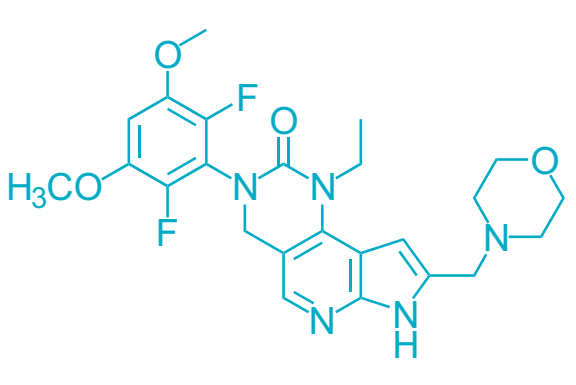
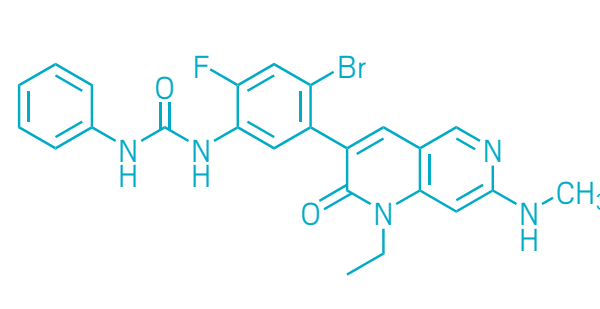
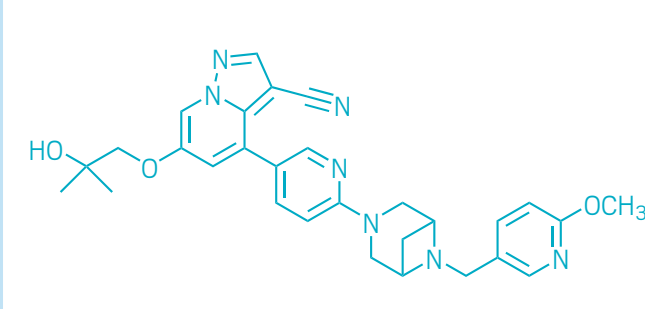
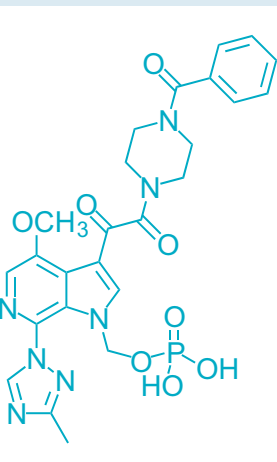
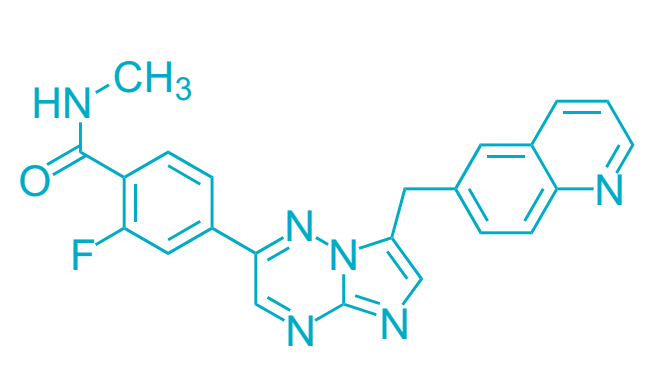
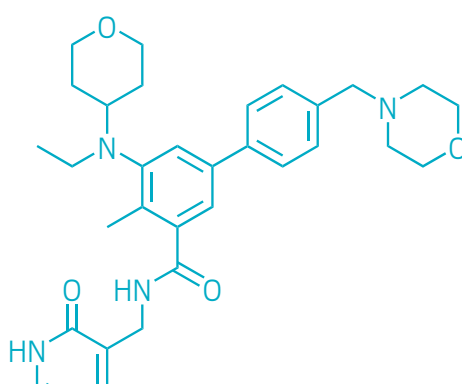
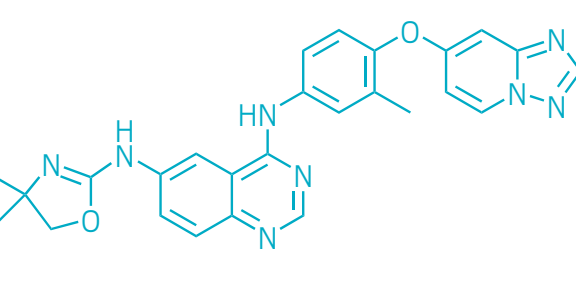
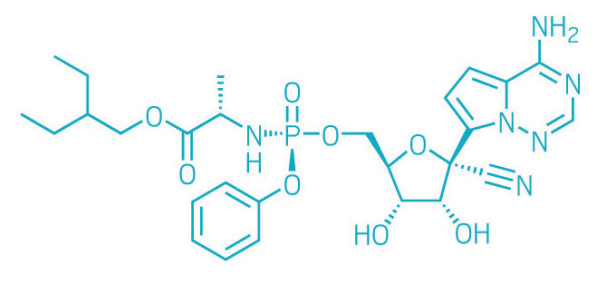
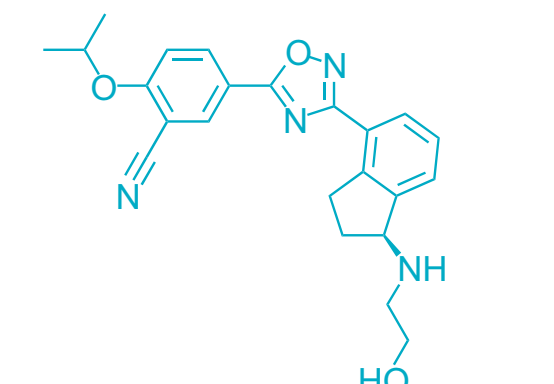
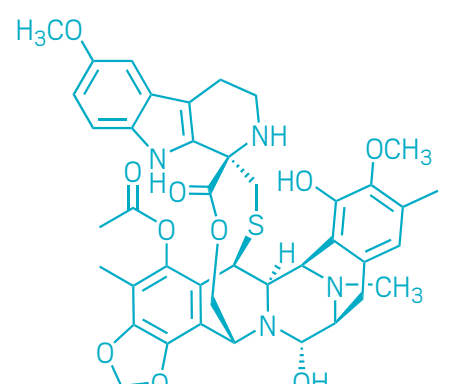
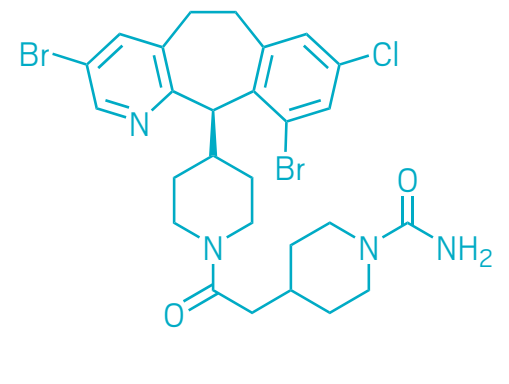
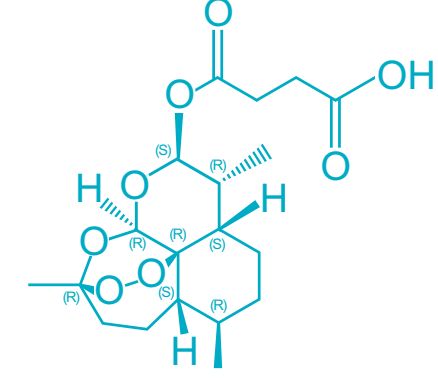
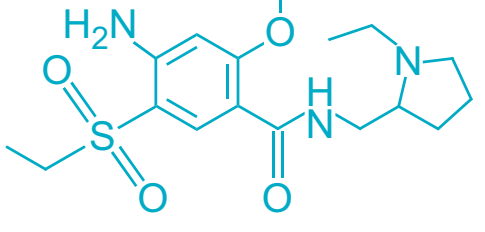
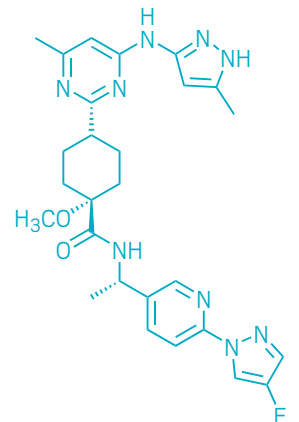
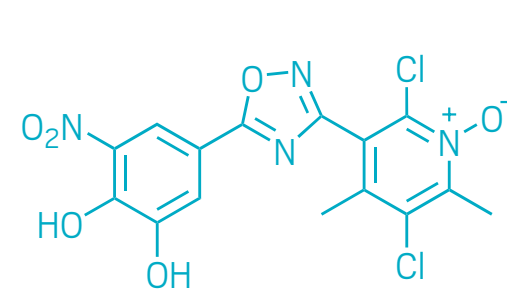
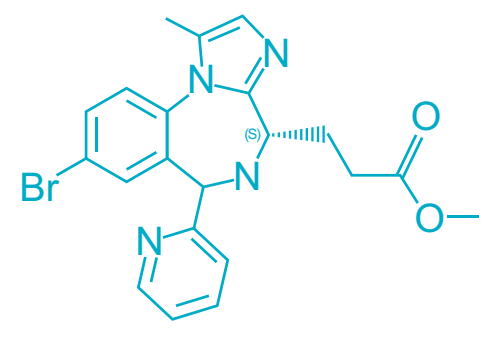
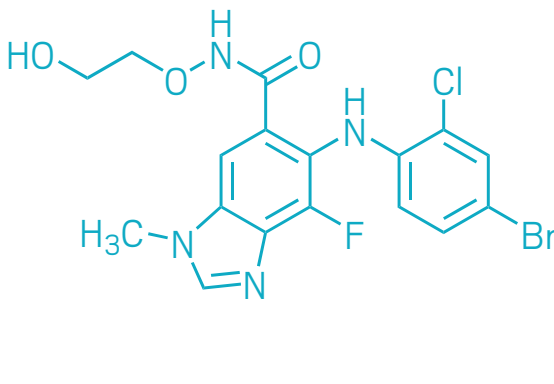
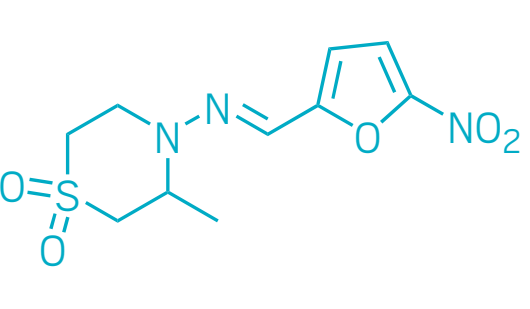
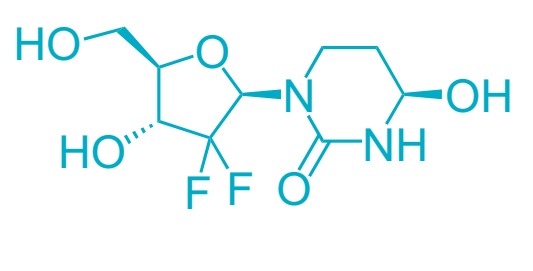
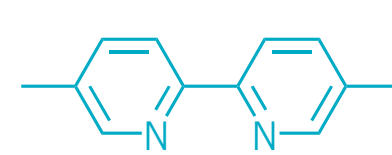
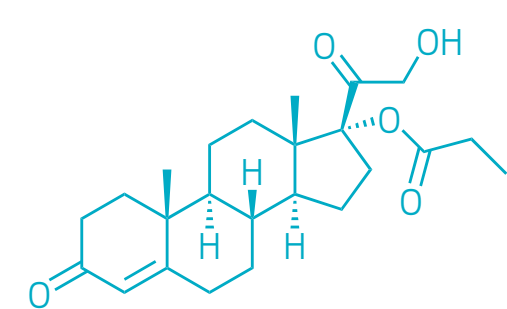
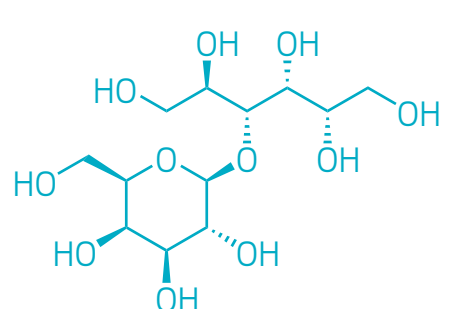
SMALL MOLECULES CONTINUED TO DRIVE DRUG INNOVATION IN 2020

Small molecule drugs (not including acyclics) accounted for 63 percent of the 49 new therapeutic drugs approved by the FDA in 2020, in line with the percentage from 2019. Of the 31 small molecule drugs approved, 20 (or 65%) were structurally novel, meaning they had at least one new molecular entity (NME) based on a new molecular shape, according to an analysis by CAS. This infographic displays the structures and key information about each of the small molecule drugs approved in 2020. The table is arranged by the number of approved NMEs on the same shape. Therefore, the structurally novel NMEs are presented first as their shapes have not been used in any previously approved NMEs.

65% of small molecule drugs approved in 2020 were structurally novel and Big Pharma originated 20% of those.



AYVAKIT	
	
NME	avapritinib
CAS RN	1703793-34-3
ORIGINATOR	Braintree
OTHER NMEs ON SAME SHAPE	0

											
NME	risdiplam	NME	vibegron	NME	osilodrostat	NME	tirbanibulin	NME	rimegepant	NME	oliceridine
CAS RN	1825352-65-5	CAS RN	1190389-15-1	CAS RN	928134-65-0	CAS RN	897016-82-9	CAS RN	1289023-67-1	CAS RN	1401028-24-7
ORIGINATOR	PTC	ORIGINATOR	Merck & Co	ORIGINATOR	Novartis	ORIGINATOR	Kinex	ORIGINATOR	Bristol-Myers Squibb	ORIGINATOR	Trevena
OTHER NMEs ON SAME SHAPE	0	OTHER NMEs ON SAME SHAPE	0	OTHER NMEs ON SAME SHAPE	0	OTHER NMEs ON SAME SHAPE	0	OTHER NMEs ON SAME SHAPE	0	OTHER NMEs ON SAME SHAPE	0
											
NME	relugolix	NME	berotralstat	NME	pemigatinib	NME	ripretinib	NME	selpercatinib	NME	fostemsavir
CAS RN	737789-87-6	CAS RN	1809010-50-1	CAS RN	1513857-77-6	CAS RN	1442472-39-0	CAS RN	2152628-33-4	CAS RN	864953-29-7
ORIGINATOR	Takeda	ORIGINATOR	BioCryst	ORIGINATOR	Incyte	ORIGINATOR	Deciphera	ORIGINATOR	Array	ORIGINATOR	Bristol-Myers Squibb
OTHER NMEs ON SAME SHAPE	0	OTHER NMEs ON SAME SHAPE	0	OTHER NMEs ON SAME SHAPE	0	OTHER NMEs ON SAME SHAPE	0	OTHER NMEs ON SAME SHAPE	0	OTHER NMEs ON SAME SHAPE	0
											
NME	capmatinib	NME	tazemetostat	NME	tucatinib	NME	remdesivir	NME	ozanimod	NME	lurbnectedin
CAS RN	1029712-80-8	CAS RN	1403254-99-8	CAS RN	937263-43-9	CAS RN	1809249-37-3	CAS RN	1306760-87-1	CAS RN	497871-47-3
ORIGINATOR	Incyte	ORIGINATOR	Epizyme	ORIGINATOR	Array	ORIGINATOR	Gilead	ORIGINATOR	Scripps Research Institute	ORIGINATOR	PharmaMar
OTHER NMEs ON SAME SHAPE	0	OTHER NMEs ON SAME SHAPE	0	OTHER NMEs ON SAME SHAPE	0	OTHER NMEs ON SAME SHAPE	0	OTHER NMEs ON SAME SHAPE	0	OTHER NMEs ON SAME SHAPE	0
											
NME	lonafarnib	NME	artesunate	NME	amisulpride	NME	pralsetinib	NME	opicapone	NME	remimazolam
CAS RN	193275-84-2	CAS RN	88495-63-0	CAS RN	71675-85-9	CAS RN	2097132-94-8	CAS RN	923287-50-7	CAS RN	308242-62-8
ORIGINATOR	Schering-Plough	ORIGINATOR	U.S. Army	ORIGINATOR	Acacia	ORIGINATOR	Blueprint Medicines	ORIGINATOR	BIAL	ORIGINATOR	GlaxoSmithKline
OTHER NMEs ON SAME SHAPE	0	OTHER NMEs ON SAME SHAPE	1	OTHER NMEs ON SAME SHAPE	1	OTHER NMEs ON SAME SHAPE	1	OTHER NMEs ON SAME SHAPE	1	OTHER NMEs ON SAME SHAPE	4
											
NME	selumetinib	NME	nifurtimox	NME	cedazuridine	NME	abametapir	NME	clascoterone	NME	lactitol
CAS RN	606143-52-6	CAS RN	23256-30-6	CAS RN	1141397-80-9	CAS RN	1762-34-1	CAS RN	19608-29-8	CAS RN	585-86-4
ORIGINATOR	Array	ORIGINATOR	Bayer	ORIGINATOR	Astex Pharm., Nat'l Cancer Institute	ORIGINATOR	Hatchtech	ORIGINATOR	Cosmo	ORIGINATOR	Novartis
OTHER NMEs ON SAME SHAPE	7	OTHER NMEs ON SAME SHAPE	8	OTHER NMEs ON SAME SHAPE	25	OTHER NMEs ON SAME SHAPE	27	OTHER NMEs ON SAME SHAPE	49	OTHER NMEs ON SAME SHAPE	113

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