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Table 1 Test instrumentation and equipment

Number	Device	Model	Manufacturers
1	Dynamometer	D480	Qidong Huayang Power Test Equipment Co., LTD
2	SCR electronic control system	One set	Nantong Enpu Environmental Technology Co., LTD
4	Fuel consumption meter	FC2210	Xiangyi Co., LTD
5	Dual-use petrol and diesel car vehicle exhaust gas analyzer	SV-YQCH Model	Tianjin Shengwei Development of Sciebnce Co., Ltd.
7	Diesel engine	WD 615	Weichai Power Co., Ltd
8	DOC+DPF combined granular bed post-processing system	SMKQ-1	Suzhou Shuimukangqiao Environmental Engineering Technology Co., LTD
10	Calibration gas	Mixture gas	Shanghai Shenkai gas Technology Co., Ltd

Table 2 The main technical specifications of diesel engines for testing

Engine model	Unit	WD 615
Engine type	-	Water-cooled, inline, four-stroke, dry cylinder sets, direct injection, pressurized, pressurized in the cold
Bore	mm	126
stroke	mm	130
Oil supply		High pressure common rail
Oil Pressure	bar	1600
Displacement	L	9.726
Calibration power / calibration speed	kW(r/min)	240/2100
Maximum torque/speed	Nm(r/min)	1428/(2300)
The highest empty car	r/min	2300
Idle speed	r/min	600±50
The minimum fuel consumption rate of external characteristics	g/(kW.h)	190.8
Engine oil pressure	MPa	Rated condition：0.35~0.55；Idle speed：

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Engine oil temperature	℃	Rated condition：80~95；Idle speed：75~100
Diesel oil temperature	℃	38±3
Air temperature after the cold intake	℃	50±5
Diesel engine water temperature	℃	80~93
Turbine rear exhaust temperature	℃	≦600
Exhaust back pressure	kPa	≦15
The highest burst pressure	MPa	16

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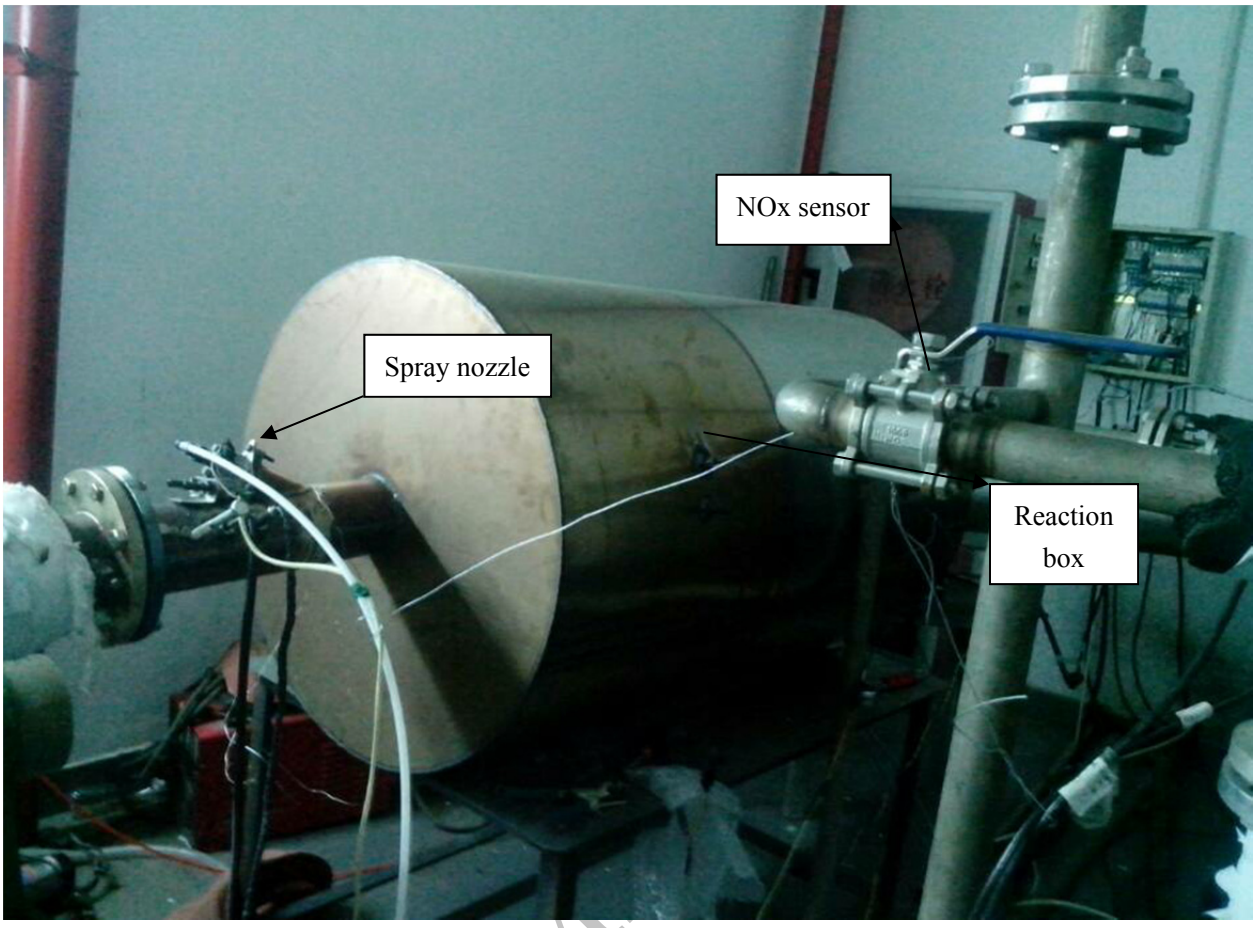

Figure 1 Diesel engine bench

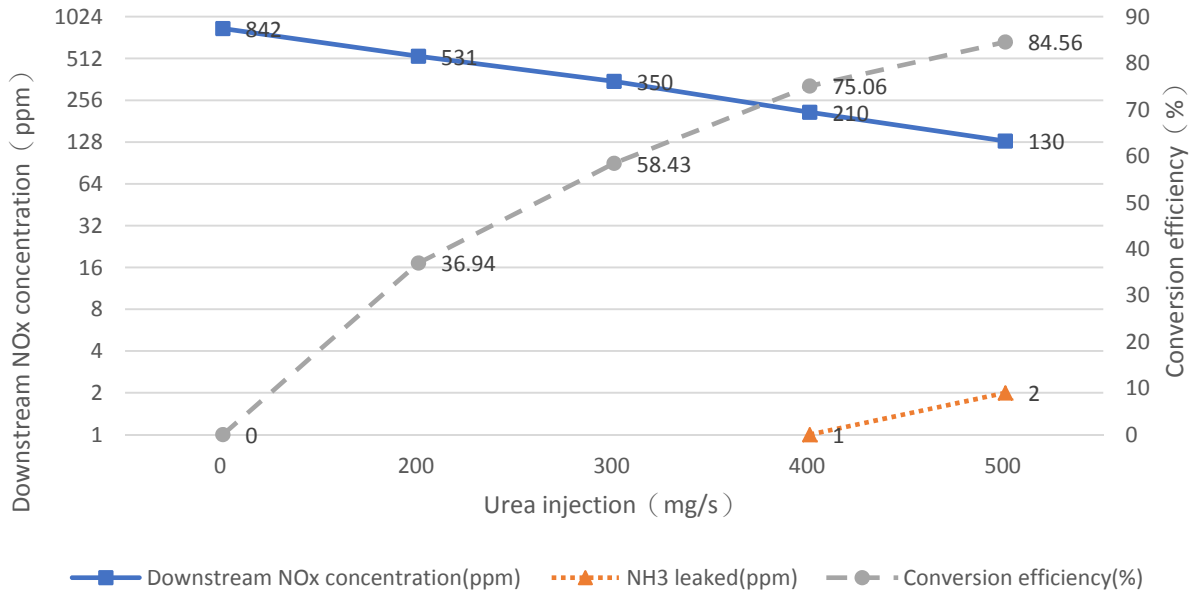

Figure 2 The relationship between urea injection and NOx conversion efficiency under Case 3

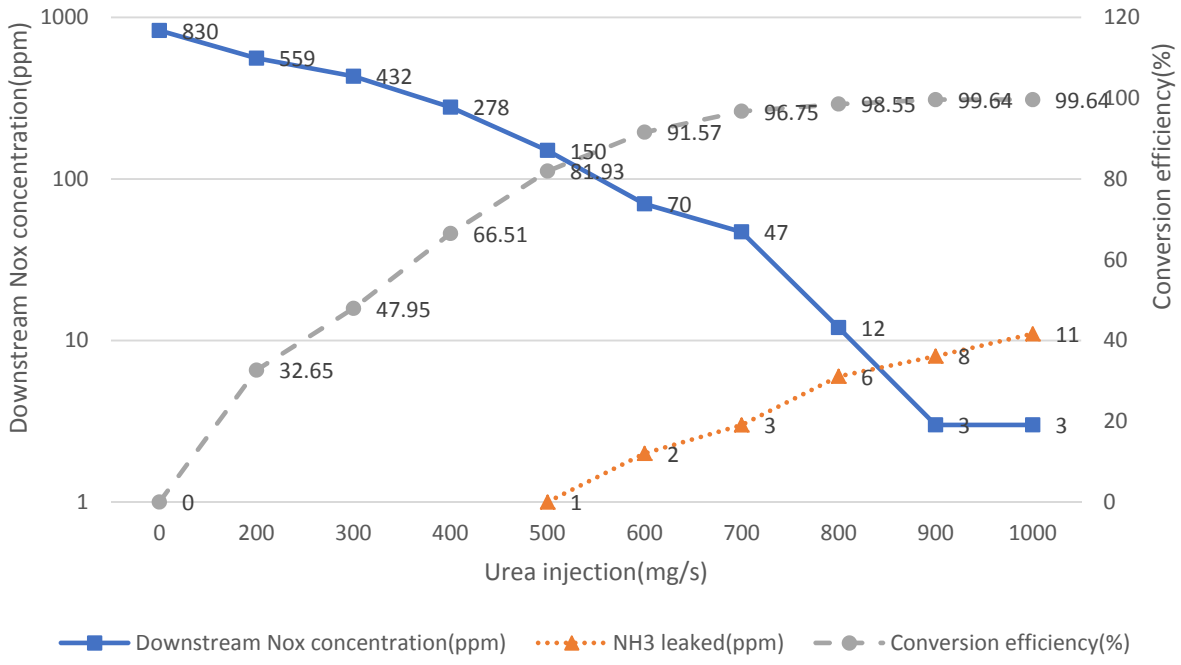

Figure 3 The relationship between urea injection and NOx conversion efficiency under Case 4

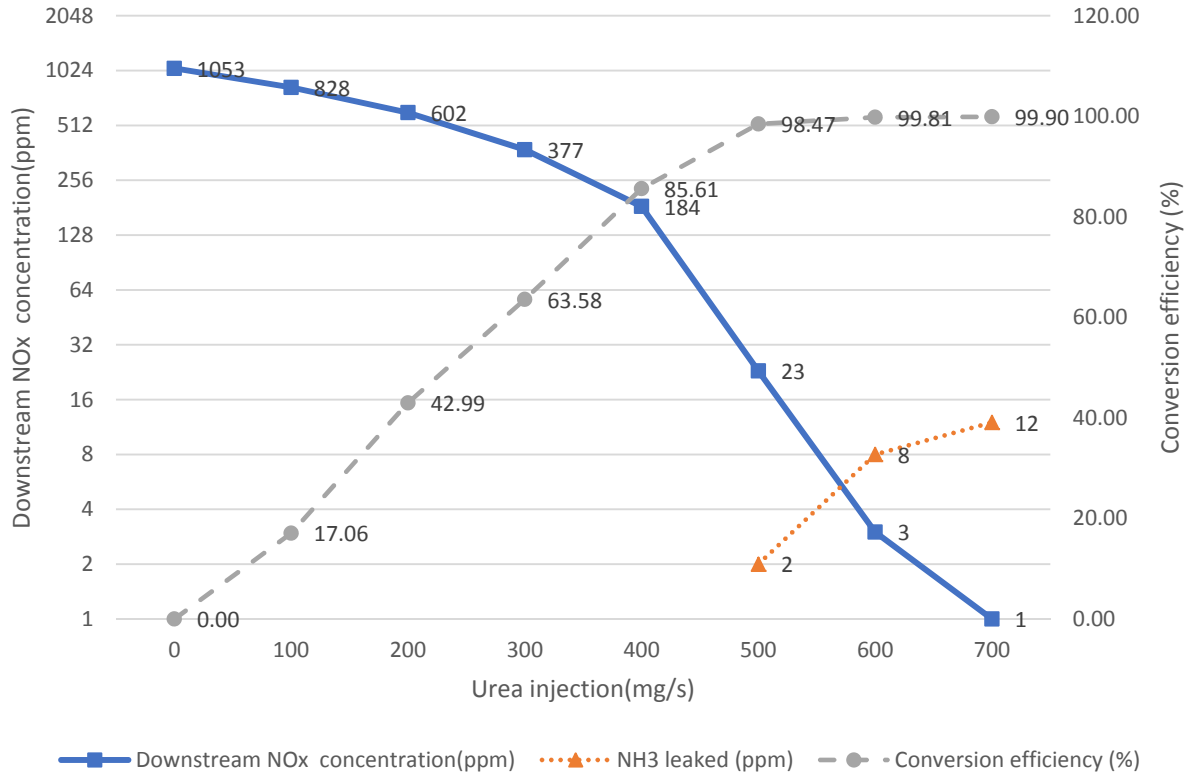

Figure 4 The relationship between urea injection and NOx conversion efficiency under Case 5

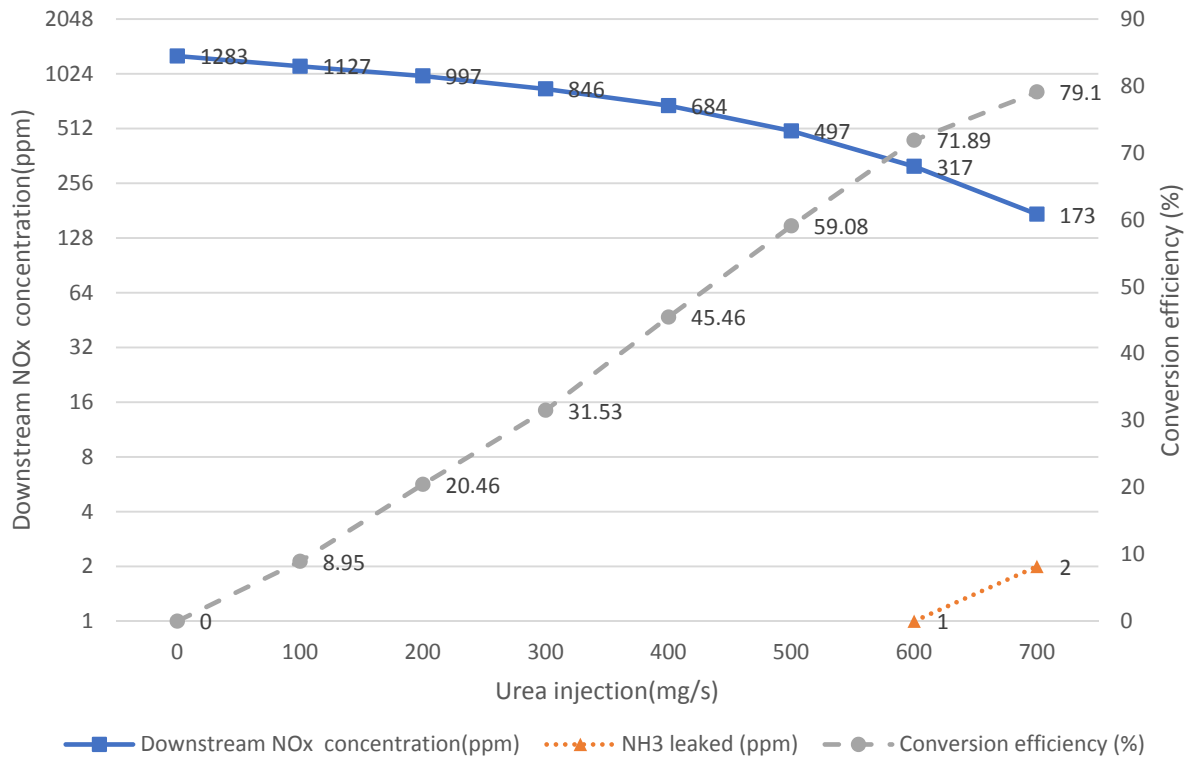

Figure 5 The relationship between urea injection and NOx conversion efficiency under Case 6

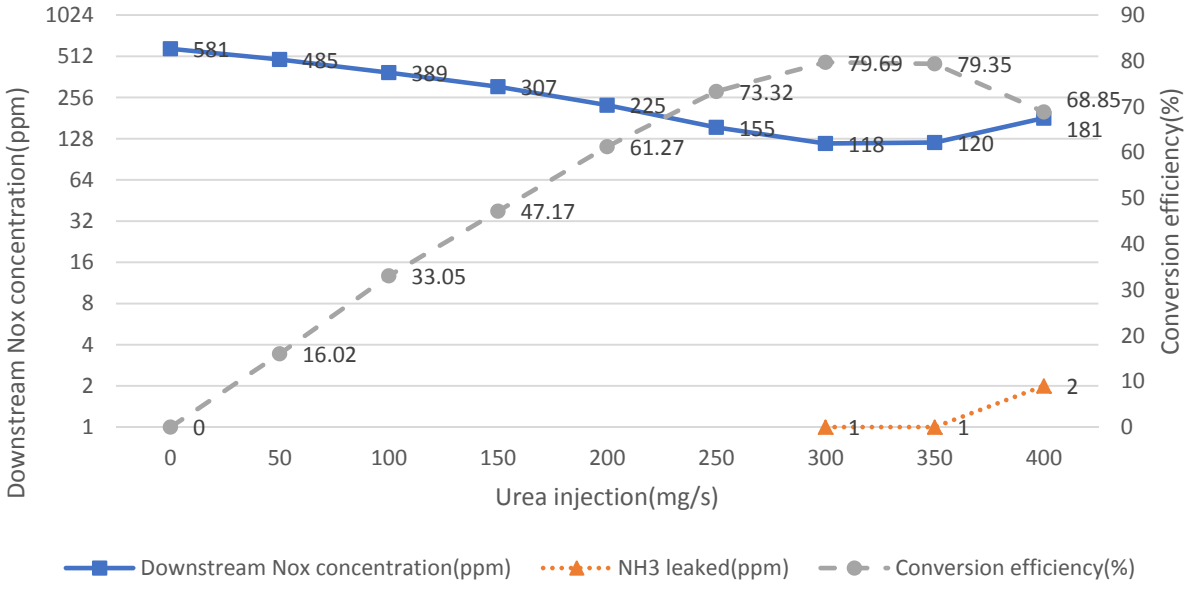

Figure 6 The relationship between urea injection and NOx conversion efficiency under Case 9

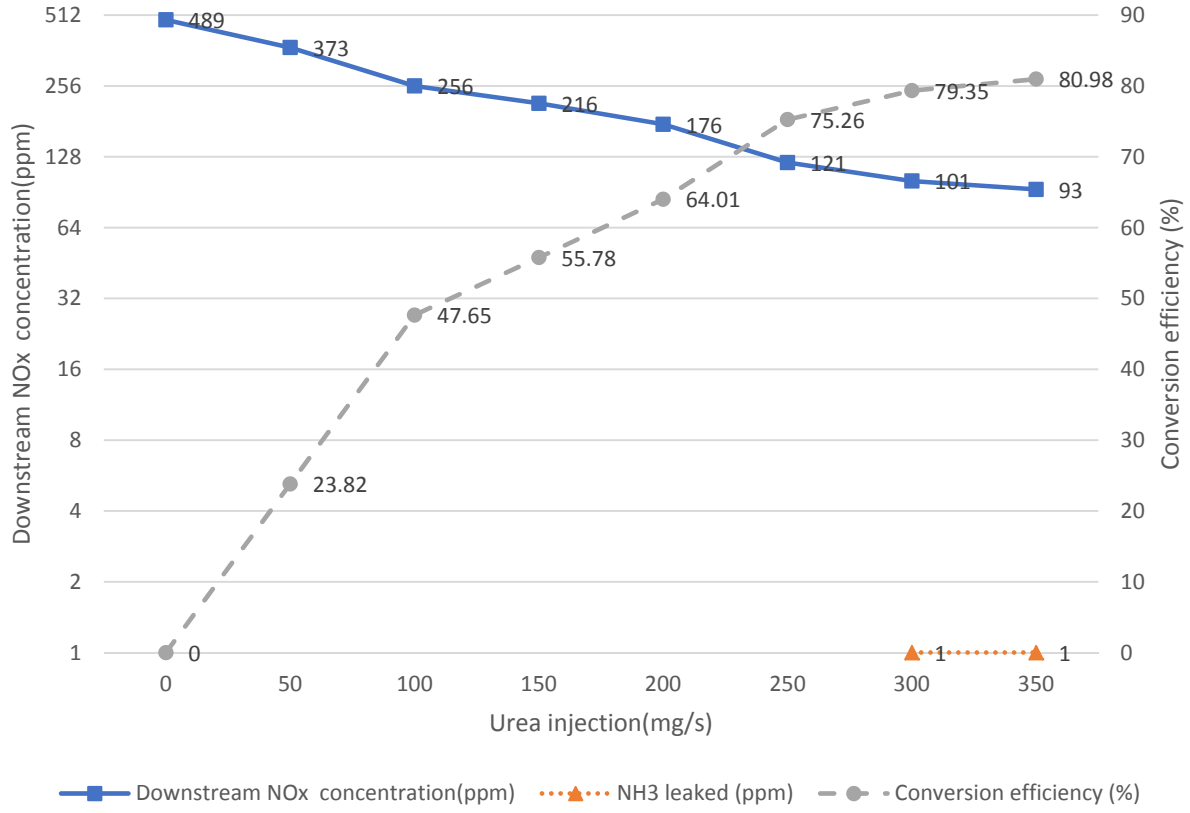

Figure 7 The relationship between urea injection and NOx conversion efficiency under Case 11

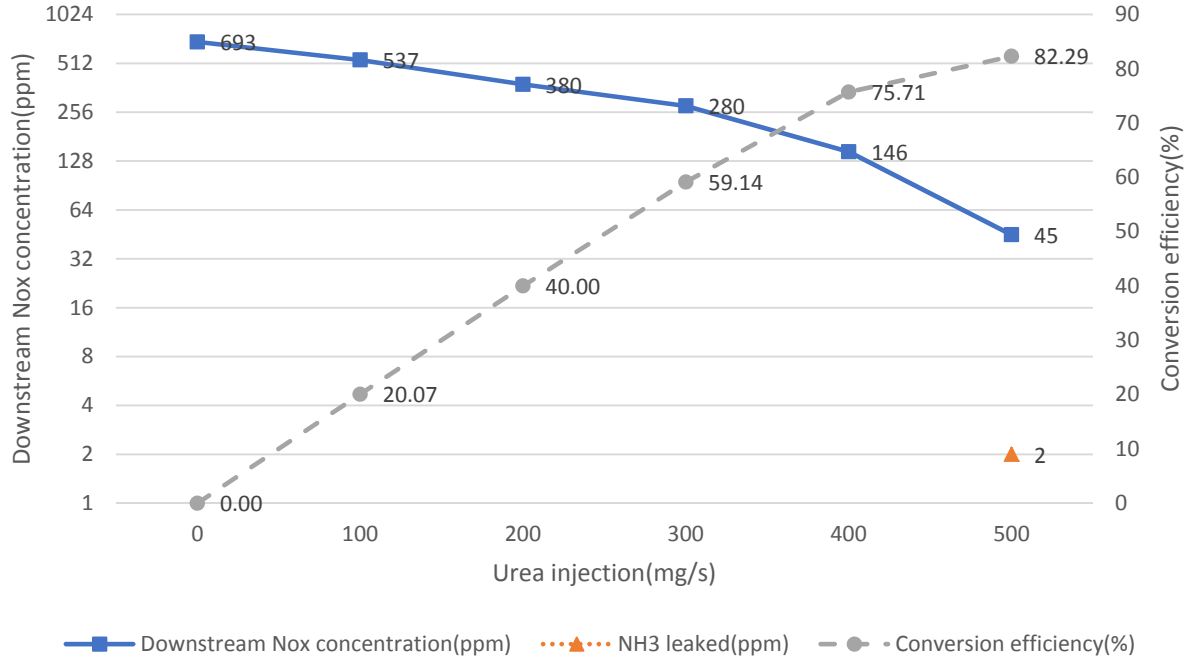

Figure 8 The relationship between urea injection and NOx conversion efficiency

under Case 13

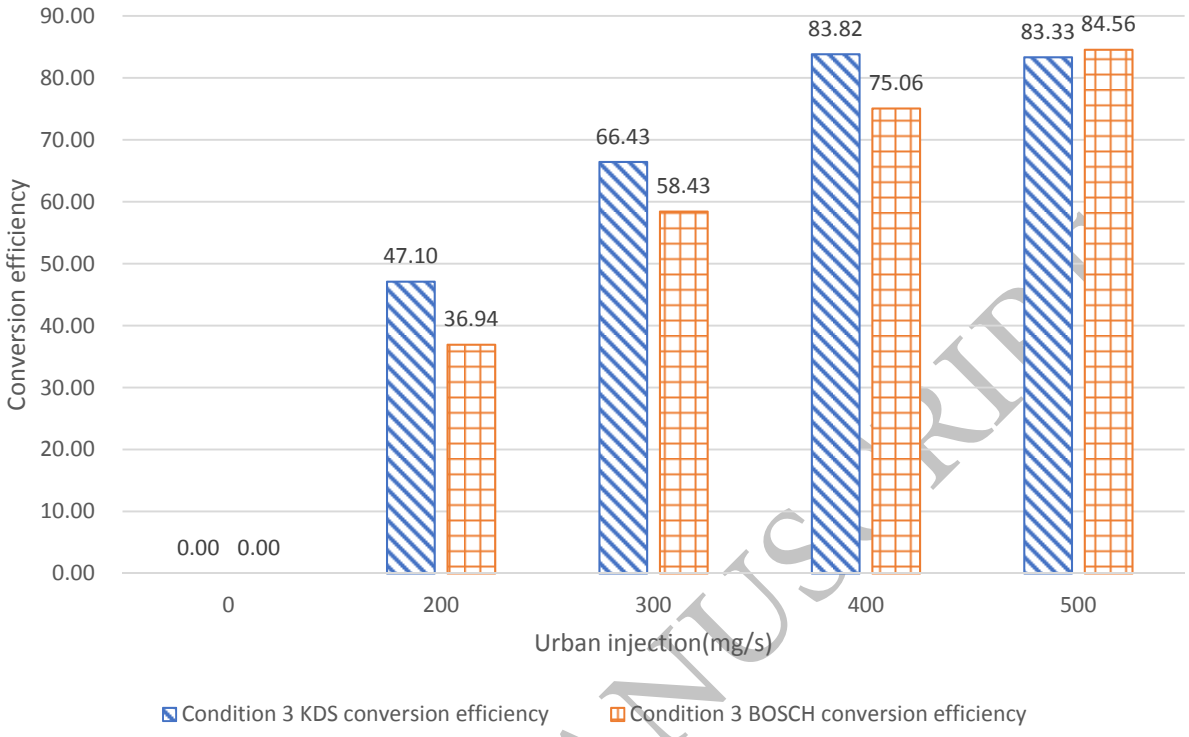

Figure 19 The comparison between KDS and BOSCH system conversion efficiency under Case 3

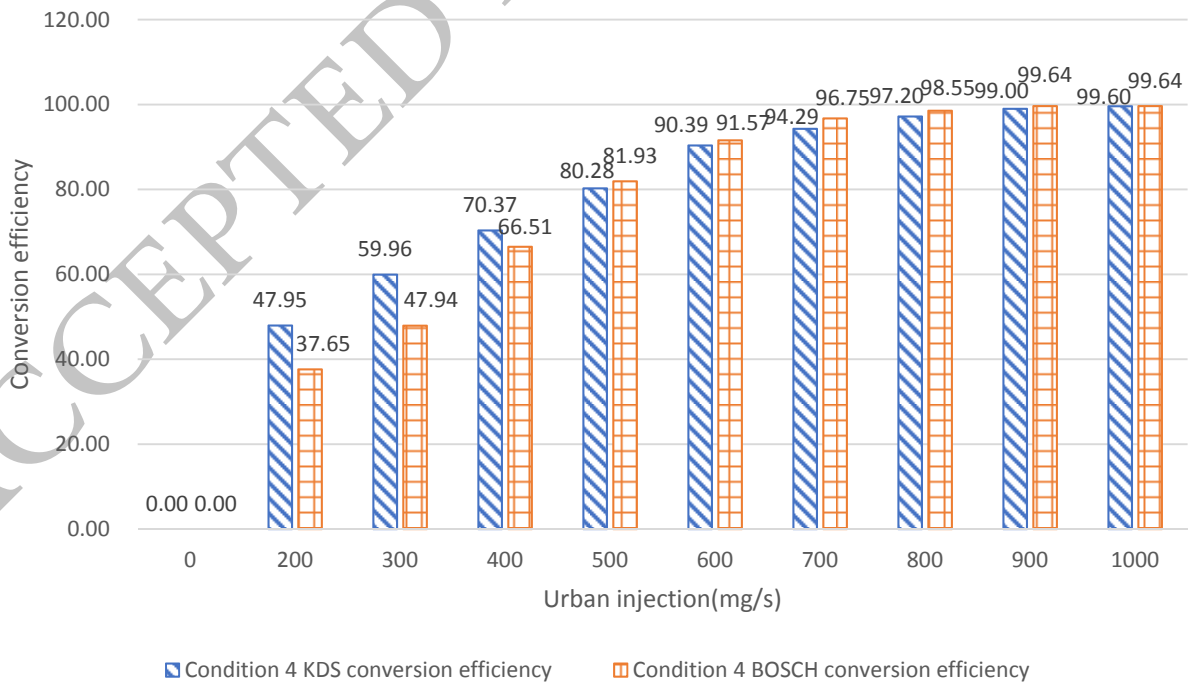

Figure 10 The comparison between KDS and BOSCH system conversion efficiency under Case 4

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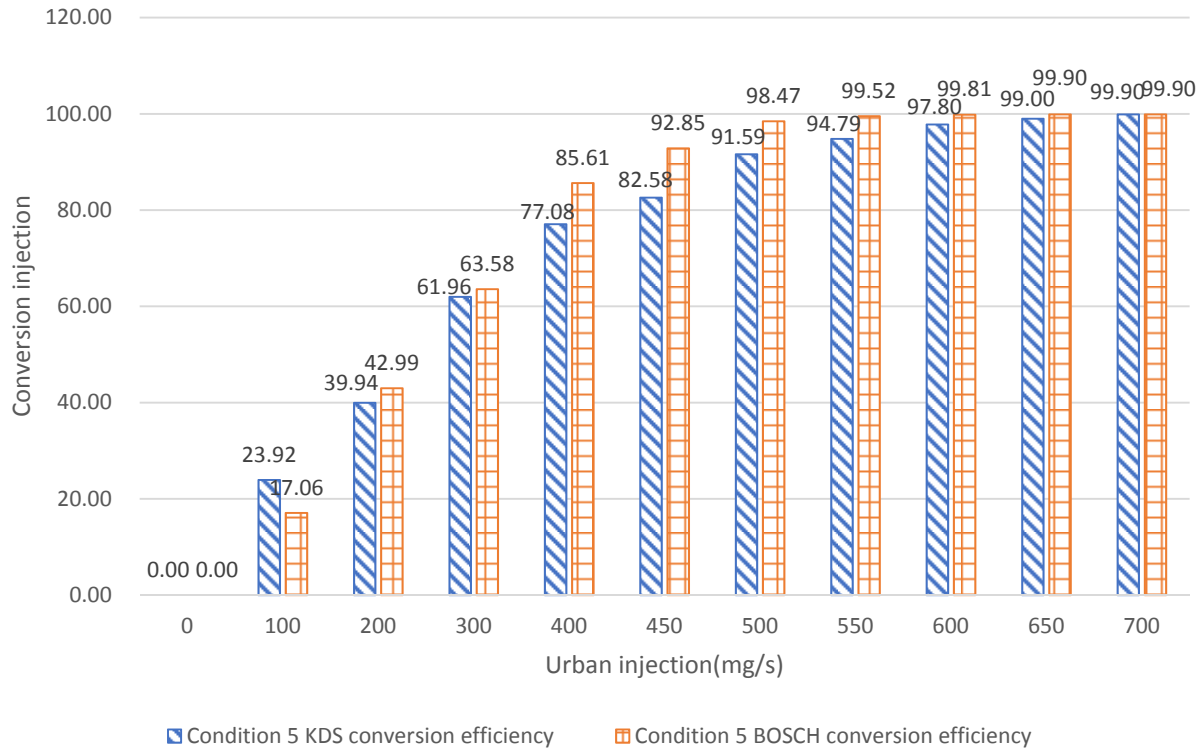

Figure 11 The comparison between KDS and BOSCH system conversion efficiency under Case 5

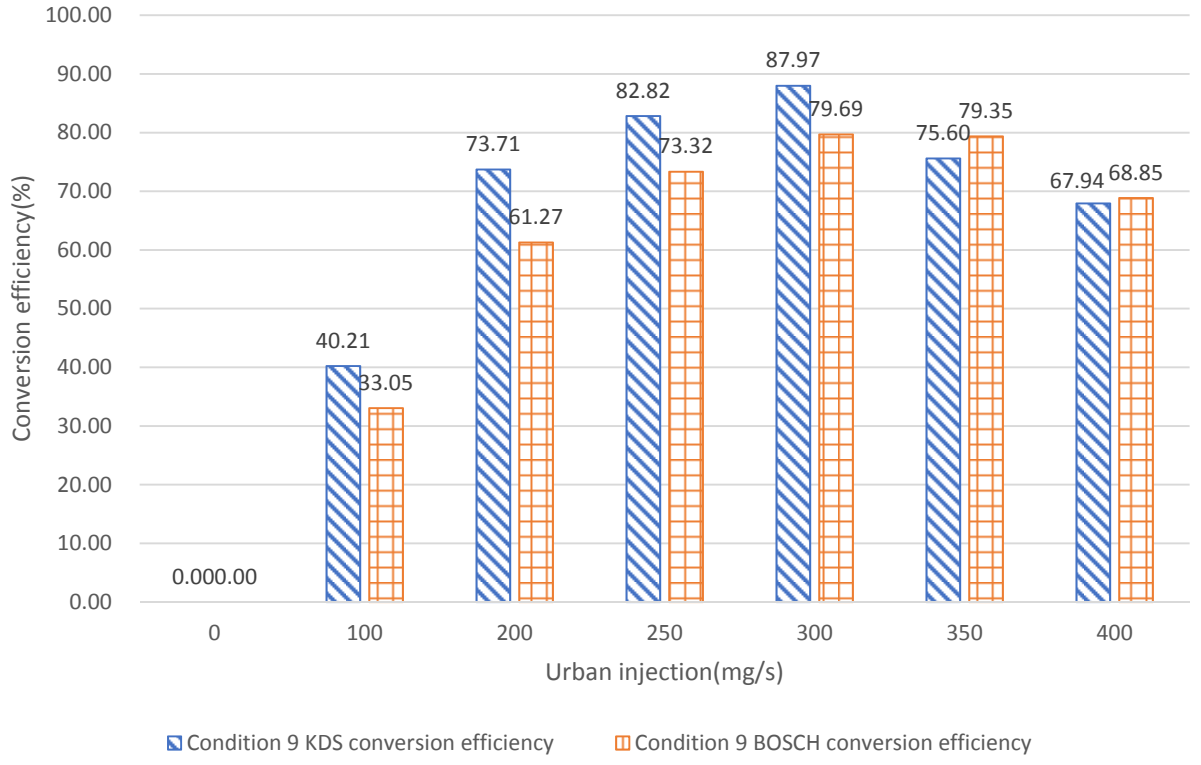

Figure 12 The comparison between KDS and BOSCH system conversion efficiency under Case 9

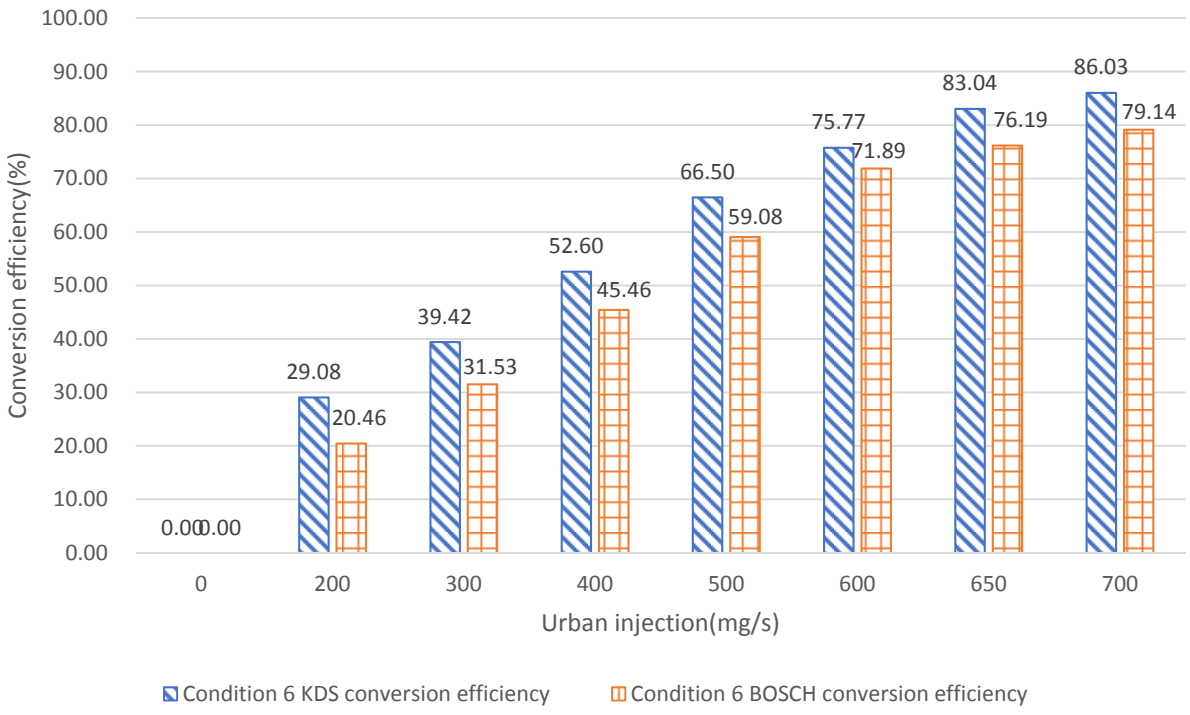

Figure 13 The comparison between KDS and BOSCH system conversion efficiency under Case 9

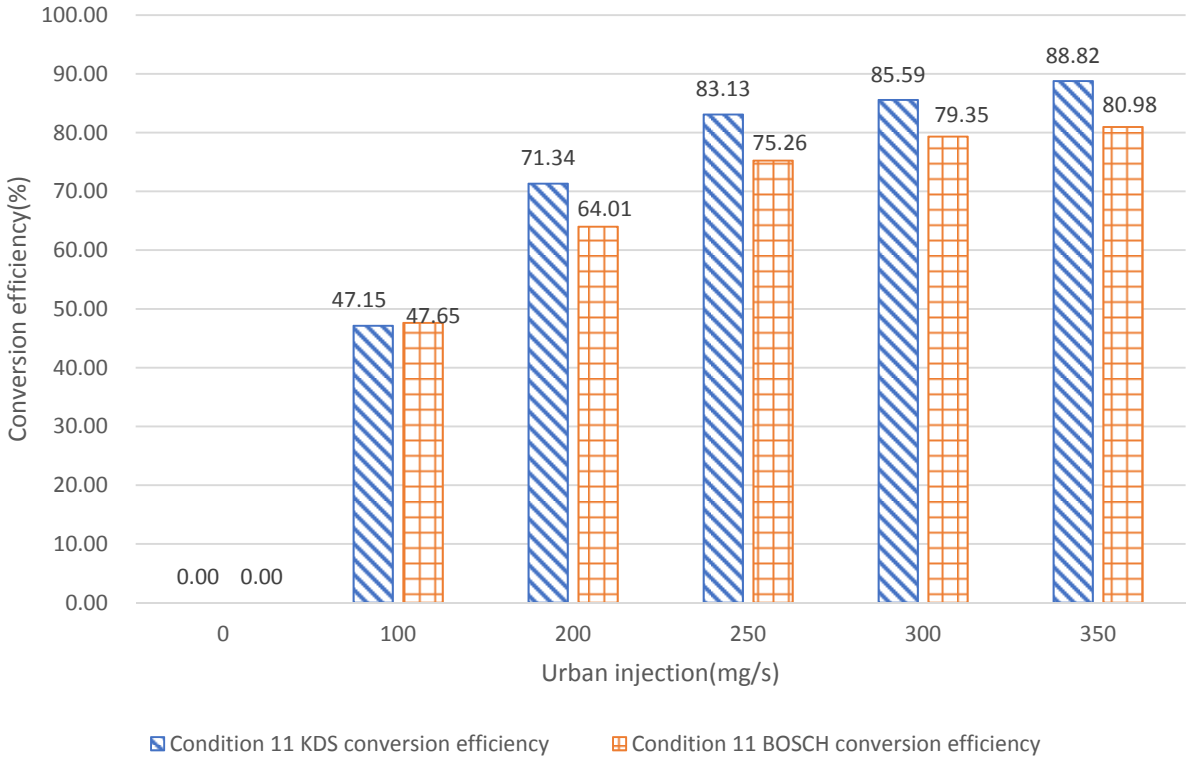

Figure 14 The comparison between KDS and BOSCH system conversion efficiency under Case 11

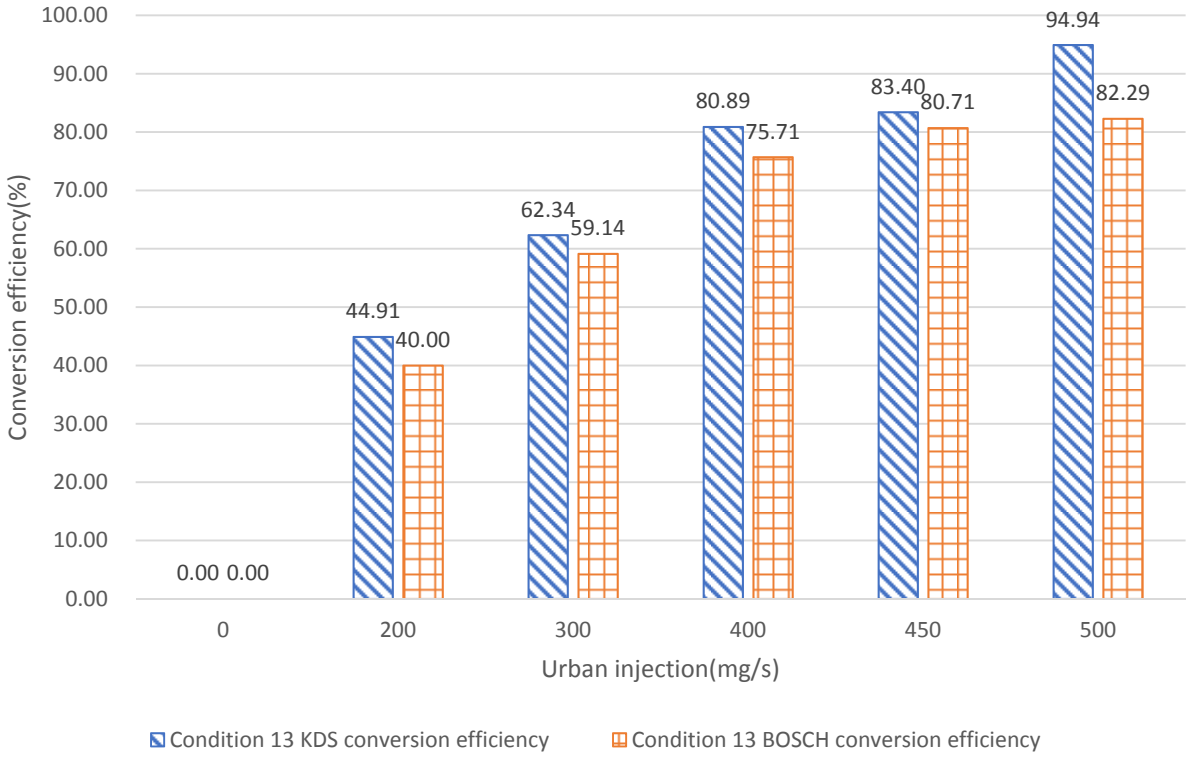

Figure 15 The comparison between KDS and BOSCH system conversion efficiency under Case 13

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